

Towards culturally adapted effective treatment for alcohol service users in Uganda



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Towards effective, culturally adapted treatment programs for alcohol service users in Uganda

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A dissertation submitted to Ghent University in partial fulfilment of the
requirements for the degree of Doctor of Educational Sciences

Academic year 2017-2018



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August, 2018
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Orthopedagogische Reeks Gent, nr. 53, 2018

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Printing: Drukkerij Nevelland Graphics

Dedicated to my wife Christine and our four children:

Eugene, Anna Wonder, Trinity Mary and David Spero (Junior) Kalema,
for sacrificing their most important resource (time) to allow me to accomplish this dream.

“A journey of a thousand miles begins with a single step”

Laozi, Chinese philosopher (ca. 604 BCE – ca. 531 BCE)

PREFACE

My experience with addiction stretches back to my childhood days, where I was a witness to its destabilisation effects in our home. Later in life, around 2005, I started working and directly promoting policy advocacy, prevention and treatment of substance (ab)use. As a practitioner, I often encounter scenarios similar and most times worse than what I went through as a child. Most of the time the parties affected by addiction (partners, children, parents) will try a multitude of ways to help their loved ones. Recovery is often expected to result from treatment, but is an elusive dream to many individuals and families; a frustrating experience among therapists and their clients, and hence may result in general loss of trust in treatment interventions.

Uganda, like many Sub-Saharan African (SSA) countries is experiencing increasing rates of alcohol and drug (mis)use, but the dearth of research in this area hampers innovative treatment practices (WHO, 2014). The seemingly disappointing treatment outcomes and lack of literature on treatment for people with alcohol use disorders (AUD) in Uganda drove my inquiry into a doctoral study on 'culturally adapted, effective ways of managing AUD in Uganda'. This thesis highlights major findings of my seven-year quest to unpack key considerations for successful treatment of AUD for Uganda and other SSA countries with similar characteristics. This study is directly based on experiences of 200 respondents, 160 alcohol service users and 40 service providers. The major objectives of this study were to;

1. Review existing policy and treatment interventions for alcohol abuse in Uganda and the Sub-Saharan region;
2. Map service users' and treatment providers' perspectives on alcohol addiction and treatment in Belgium and Uganda;
3. Examine the role of addiction severity, motivation for treatment, psychopathology and quality of life for recovery from AUD after residential treatment;
4. Suggest recommendations and possible measures for further developing culturally adapted treatment programs for individuals with alcohol use problems in Uganda.

Our study intended to assess the appropriateness of current interventions and to identify cultural adaptations necessary to provide effective treatment programs for alcohol service users in Uganda. These observations and recommendations are reported in the subsequent chapters.

In **Chapter 1**, we provide an overview of the alcohol misuse situation in Uganda, as part of a regional trend in SSA. First, the origins of alcohol misuse and emerging policy initiatives in SSA are discussed. Then, the consequences of alcohol misuse in Uganda are highlighted, as well as policy and treatment responses. This chapter also highlights features of treatment for AUD in Uganda, describes the history of formal treatment interventions and assess current treatment approaches, components and setting.

Chapter 2 explores similarities and differences in perspectives on alcohol addiction and facilitating factors between Uganda and Belgium to improve professional insights on effective prevention and assessment/therapeutic strategies and to enhance information exchange on best practices in a world characterized by constant migration, in which addiction has become a global phenomenon (Chen & Nath, 2016).

Chapter 3 discusses treatment challenges for alcohol service users in Kampala to identify obstacles keeping people from entering and continuing treatment.

Chapter 4 explores the baseline characteristics of alcohol service users in Kampala and highlights their treatment motivation levels and correlates.

Chapter 5 reports results of a six month longitudinal study of alcohol service users to identify elements and predictors of early recovery.

The final **Chapter 6** contains a general overview and discussion of our main findings. Implications for policy and practice of AUD treatment, limitations of the study and recommendations for further research are also provided.

This dissertation comprises several papers, some of which have been submitted for publication and others are under editorial review or have already been published. To make each of these papers self-containing and to meet the respective editor's requirements, the content of some of the chapters may overlap. Moreover, as these papers have been submitted to journals with a different scope and philosophy, the terms used may sometimes vary, especially for naming alcohol use problems: alcohol use disorder, addiction, misuse, abuse, etc.

ACKNOWLEDGEMENTS

My craving for acquaintance with treatment for substance use led me to several people, places and agencies, until I found a fertile research ground at Ghent University, Belgium, a place hitherto not so much known to me. Since the ‘chilly November 2013 inaugural experience’, my life has been a bunch of exciting adventures, with lots of ups and downs. I am indebted to all individuals and institutions (some of which I may not recall), who in one way or another helped me to realise this dream.

My immediate gratitude goes to the institutions which made it possible for me: Ghent University and Makerere University for the academic mentorship. Second, the Bijzonder Onderzoeksfonds (Special Research Fund of Ghent University) that financed this four-year project and the Catholic Scholarship Fund (CSF) that supported my ground-breaking research work in Uganda. Special thanks to Serenity Centre, for introducing me to the exciting world of working with people to overcome their addictive behaviours, to Hope and Beyond (HaB) for providing a home to my dream and to the Ley Community (Oxford, UK) for offering me an internship opportunity in England. I thank the alcohol service providers and users of the different facilities who enthusiastically welcomed me and my assistants and freely shared their intense life experiences, providing invaluable information for this study. These facilities included St-Camillus and St-Joseph psychiatric hospitals in Belgium, and Butabika hospital and HaB in Uganda.

With profound gratitude, I acknowledge the support of my supervisors in Ghent. Their diversity of knowledge helped me to see things in broad perspective. Professor Wouter Vanderplasschen, the team leader, far exceeded my expectations, diligently combining the roles of guardian, friend and academic mentor! To say that my interactions with him have been inspirational is an understatement and yet I fail to find appropriate description for his endearing support. What can you say about a supervisor with whom among others you freely played football, prepared and enjoyed family meals, functions, ... and from whose young stars you received free training in Dutch language lessons? Wouter believed in me, even when my confidence subsided and inspired me with his ‘never give up’-attitude and continuous ‘almost there!’-comments to my work.

Dr. Sofie Vindevogel, not only helped me in the application process, but on two occasions visited me in Uganda and was a good buddy through the normalisation of my stay in Belgium; patiently listening to my long lamentations about bureaucracies and always reminding me that the light at the end of the tunnel is not necessary that of an oncoming train! Professor Ilse Derlyun was my first contact point to Ghent University and besides opening my door to the University community, she walked with me through the PhD journey offering energising comments and honest criticisms. Thank you too, prof. John Fontaine, for helping to sharpen my methods as your critical perspectives always gave me what to ponder about for improvement.

My appreciation also goes to the local promoters at Makerere University. I thank dr. Grace Kibanja and dr. Roscoe Kasujja, my very first contact point at the School of Psychology and prof. Peter Baguma and dr. Julius Enon, whose guidance in the initial stages framed my research proposal. My deepest thanks to prof. Maria Musoke, for encouraging me to 'go far' in studies and for the regular tips on achieving success. Thank you prof. Peter Baguma for walking with me this PhD journey from the very first step until now!

I wish to express my utmost gratitude to colleagues that are or have been part of the Department of Special Needs Education, for making my stay in Ghent comfortable in countless ways; ranging from social outings such as the Ghent festival to rigorous appraisal of my work. I cannot forget my first day at office, when Stijn offered me a lift to avert an unpleasant encounter with snow, but together with his family we ended up wondering around Gentbrugge for two hours, as I tried to locate my new home during a journey that normally lasts 15 minutes! Thank you Anne for the determination to physically submit my PhD application, despite the heavy rains on the D-day and for providing me with tough challenges at the Ghent city athletic Mini-Marathons. Special thanks to Lore for the extensive and full proof support with quantitative data analysis and to Clara, Lies, Nele, Sarah, Maria, Sven, Elke, Dieter, and Sara for the kindness and, on many occasions, for being my GPS whenever I needed to move around Belgium. I am further indebted to Jan, Katrien, Leen and Tina for the thought-provoking and client-centred conversations and for introducing me to your families who in turn received me so warmly. Special mention to my beloved friends Florian, Lana, and Julie, for the rich social interactional opportunities and their exceptional commitment

to work that made me feel integrated with maximum concentration. Thank you again Florian, for your help with the layout of this dissertation and for your constant encouragement. Thank you Orphee for translating the English summary of this work to Dutch. Lastly, I cannot forget my 'BIG sister' Natalie and her husband, Fredrick, for their unconditional love, generously sharing their resources with me. Natalie uplifted me when I was weak and celebrated with me any achievement(s), providing enough memories to last my lifetime. To all my amazing (those I have mentioned and those I have forgotten) colleagues, I say thank you for your patience in introducing me to the Belgian way of life and for the hearty laughter we shared about the differences with the African lifestyle and, above all, for your compassion whenever I was distressed.

Outside the department, I met many more interesting people who always offered joyful and motivational words. I cannot forget the amazing Ugandan/African community in Ghent, whose picnics provided the much-needed stress-relief opportunities. Thanks dr. Lydia Sakwa for the regular encouragement and setting the bar on hard work. Many thanks too to Dirk and Lydia for hosting me in their lovely home and allowing me to enjoy their sumptuous meals after prayers at Gentbrugge, always making my Sundays, family days. My friends, Hugo and Veronique, thank you for checking on me regularly and for providing essential reading materials and collaboration opportunities for data dissemination opportunities. Johan and Katrien, thanks for showing interest in my professional life and for the career building exercises. My land lords in Gent, Marielle and OBSG, ensured a comfortable stay in Ghent. I thank you all.

I also take this opportunity to honour some of the Ugandan based people who were instrumental to my work. Thank you, Sr. Josephine Nafula for giving me a wonderful career gift of the application form meant for your scholarship with the CSF. Second, I extend my appreciation to my unsung heroes, the research assistants: Olivia, Patience, Carol, Imke, Tamara and Vendura, who spent long hours interviewing respondents, transcribing interviews and inputting data into the SPSS system. Thanks Carol, for proof reading and giving critical feedback on my work. Much appreciation to the staff of HaB, led by Passy, for the continued diligence even in my absence and much appreciation to the Directors, for permitting me to study and for overseeing the centre in my absence. Edith, Richard and Irene, your sacrifice for me will always be appreciated. Sylvia, your support and advice

and constant prayers will always be remembered. Sincere appreciation as well to Sr. Alice, dr. David and the staff of Butabika Hospital, for welcoming our research with open hands. Much appreciation to my other collaborators, such as the Ministry of Health (Uganda), members of the Ugandan Alcohol Policy Alliance, but also to the IOGT fraternity for providing various opportunities to learn about addiction, while disseminating my work at conferences in Europe and Asia and for introducing me to an amazing collection of human beings passionate about other's wellbeing. I have a personal story to tell about Maik, Kristina, Rolf and Katrien, Ditmar, Ulrike, Simone, Anjie, Christian, Francisco and the entire IOGT family, as they greatly enhanced my professional networks.

Last but not the least, I thank my family, especially my wife and best friend, who loved me so much that she sacrificed and endured long periods of physical and emotional absence and yet managed to keep our family together. I consider the biggest contributors of this PhD to be my four children, as it was a torrid of emotions whenever I left them for the long research stays in Belgium, but they were always delighted to receive me. Now that this assignment is over, I am ready to pay for the tearful send away hugs by availing to you as much time as possible. To my last borne, David (Junior): Dad is here now, let's have fun!

To you all and the rest I cannot remember, I say: Thank you very much. To God, be the glory and honour and praise for this accomplishment and may he abundantly reward you.

David Kalema, August 2018

LIST OF ACRONYMS

AA	Alcoholic Anonymous
APA	American Psychiatric Association
ASI	Addiction Severity Index
AUD	Alcohol Use Disorder
CBT	Cognitive Behavioural Therapy
COM-B	Capability, Motivation, Opportunity – Behaviour
CROIC	Centre de Recherche et d'Information des Consommateurs
DALYs	Disability-Adjusted Life Years
DSM-IV	The Diagnostic and Statistical Manual of Mental Disorders (4th ed.)
DSM-5	The Diagnostic and Statistical Manual of Mental Disorders (5th ed.)
GDP	Gross Domestic Product
HSCL	Hopkins Symptom Checklist for Adolescents
MoH	Ministry of Health
NAP	National Alcohol Policy
NIAAA	U.S. National Institute on Alcohol Abuse and Alcoholism
NIDA	National Institute on Drug Abuse
PHC	Primary Health Care Center
QoL	Quality of Life
SAMHSA	Substance Abuse and Mental Health Services Administration
SDT	Self-Determination Theory
SSA	Sub-Saharan Africa
SUD	Substance Use Disorder
TCU	Texas Christian University
TCU MOTForm	Texas Christian University Treatment needs and Motivation scale
TPQ	Treatment Perception Questionnaire
UAPA	Uganda Alcohol Policy Alliance
UBOS	Ugandan Bureau of Statistics
UGX	Uganda Shillings
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organisation
WHOQoL-BREF	World Health Organisation Quality of Life–BREF
WP	Work Package

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ALCOHOL MISUSE, POLICY AND TREATMENT RESPONSES IN SUB-SAHARAN AFRICA: THE CASE OF UGANDA¹

Abstract

The growing availability, use and misuse of alcohol on the African continent, coupled by the general lack of regulatory measures and the presence of ineffective responses poses a vital challenge to the economic development, public health and social wellbeing of the inhabitants (Dumbili, 2014; World Health Organization (WHO), 2014). Sub-Saharan Africa (SSA) has been mapped as one of the regions with high alcohol consumption (World Health Organization's studies (WHO), 2004, 2011, 2014) yet “despite a growing culture of intoxication” (Dumbili, 2014, p. 435) demand reduction strategies such as policy and treatment programs are hardly available. This research begins with an overview of alcohol use and policy situation in sub-Saharan region and later focuses on Uganda (a country with the highest reported rate of alcohol-related burden in the world (Graham et al., 2011)) to profile the underlying causes of Alcohol Use Disorders (AUDs), scrutinize the nature of current treatment intervention and suggest possible adaptations to enhance its effectiveness.

Keywords: *Africa; alcohol abuse; use; dependency; drinking culture; policy; residential treatment; treatment; treatment interventions*

¹ This chapter is based on:

Kalema, D., Vindevogel, S., Baguma, P. K., Derluyn, I., & Vanderplasschen, W. (2015). Alcohol misuse, policy and treatment responses in Sub-Saharan Africa: The case of Uganda. *Drugs: Education, Prevention & Policy*, 22(6), 476-482. doi: 10.3109/09687637.2015.1006180

Kalema, D., & Vanderplasschen, W. (2015). Features and challenges of alcohol abuse treatment in Uganda. *African Journal of Drug & Alcohol Studies*, 14(2), 125-136.

1.1 Alcohol misuse, policy and treatment responses in SSA

Although alcohol consumption has existed for long across the African continent (Pan, 1975), World Health Organization's studies (WHO, 2004, 2011, 2014) show alarming consumption trends and a large number of alcohol users with risky drinking patterns in the sub-Saharan region. Important features of hazardous drinking include high rates of drinking to intoxication (Dumbili, 2014; Obot, 2006; Wills, 2006) and binge drinking (WHO, 2004, 2011, 2014). Based on the recent WHO's (2014) report, Togo, Seychelles, Benin, Rwanda and Namibia are listed as countries with the highest rates of heavy episodic drinking (drinking at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days) in the world (Table 1.1). In particular, this is a rising trend among adolescents and young adults (Obot, 2006; Swahn, 2013). The WHO's Global Survey on Alcohol and Health (2007a) showed a marked increase in the five-year trend of under-age drinking and a further 80% increase in alcohol consumption among 18–25-year olds globally. Sub-Saharan countries such as Togo, Gabon, Nigeria, Ivory Coast and the Democratic Republic of Congo top the list of young heavy episodic drinkers in Africa (Table 1.1). In terms of per capita alcohol consumption, countries including South Africa, Nigeria, Gabon, Namibia, Uganda and Rwanda rank among the top quarter of alcohol consuming countries worldwide and considerably above the average consumption of 6.2 litres of pure alcohol on the African continent (WHO, 2014). A key feature of alcohol consumption in these countries is the wide prevalence of informal or unrecorded alcohol (i.e., alcohol produced outside the jurisdiction of the government) (Willis, 2006), which constitutes the bulk of alcohol consumption in rural African areas and the majority of alcohol consumed in countries such as Chad, Guinea and Ethiopia (WHO, 2014).

Table 1.1

Indices of alcohol use, heavy episodic drinking and consumption of unrecorded alcohol in a random number of SSA countries in 2010 (WHO, 2014)

Country	Total alcohol per capita consumption among persons > 15 years (in liters of pure alcohol)	Percentage of heavy episodic drinkers among persons > 15 years	Percentage of heavy episodic drinkers among 15–19 years old persons	Percentage of unrecorded alcohol of total consumption (alcohol per capita)
Benin	2.1	22.4	3.1	48
Chad	4.4	.9	3.2	91
Comoros	.2	.9	.1	50
Congo	3.9	3.1	3.4	56
D.R. Congo	3.6	2.9	13.7	36
Ethiopia	4.2	.6	3.1	83
Gabon	10.9	5	16.8	23
Guinea	.7	1.9	.1	71
Ivory Coast	6	2.7	14.4	33
Kenya	4.3	1.4	3.3	58
Namibia	10.8	12.8	4.4	37
Nigeria	10.1	7	14.6	10
Rwanda	9.3	18.9	4.1	31
Seychelles	5.6	22.3	4.9	27
South Africa	11.8	9.8	4.9	26
Togo	2.3	24.4	33.2	43
Uganda	9.8	3.8	4.5	15

1.1.1 Origins of alcohol misuse in SSA

For a long time, alcohol had a distinguished place in the religious and symbolic sphere as well as the social, economic and interpersonal domains (Bryceson, 2002). In pre-colonial times (until 1800), alcohol had diverse applications from being used as a medium of exchange and communication with ancestors to being utilized as food (Adelekan, 2008; Heap, 2011; Pan, 1975). Although some authors (Burton, 1961; Schweinfurth, 1888) report evidence of alcohol misuse in traditional African communities, other scholars such as Parry and Bennetts (1998) depict romantic images of harmonious pre-colonial drinking. Yet, there is general consensus that alcohol misuse is more prevalent nowadays due to a combination of factors such as the type of alcohol, altered production and consumption patterns, wider availability, and changing cultural practices and social control mechanisms (Carlson, 1992; Heap, 2005; Jernigan & Obot, 2006; Odejide, 2006).

The consumption of alcohol in pre-colonial times was characterized by low alcohol by volume (2–4%) beer and wines, which were fermented from food products (Adelekan, 2008; Heap, 2011; Pan, 1975). Also, alcohol was produced in particular seasons and in many cases only used for traditional rituals and reserved for respected men (Adelekan, 2008; Willis, 2006). Drinking occurred in the homesteads during weekends and holidays and was largely ceremonial, emphasizing the ritual rather than intoxication (Pan, 1975). The exception to this scenario was in coastal areas where imported spirits became available through the growing trade with Europe (Willis, 2006).

The drinking culture in SSA changed significantly in the 19th century with the colonization and following commercialization of alcohol, which was accompanied by a deterioration of alcohol-related problems (Adelekan, 2008; Pan, 1975). The commercial interests of alcohol merchants appeared to be very strong and were in some cases closely linked with the political occupation by national governments (e.g., in Ivory Coast and Dahomey (Ghana)) (Pan, 1975). Import of spirits and new distillation techniques in combination with the increasing demand for alcohol by industrial contract laborers who adopted the colonial lifestyle led to the availability of bigger quantities and higher potency alcohol of up to 50% alcohol by volume (Adelekan, 2008; Heap, 2005; Pan, 1975). Also, several authors report about the import of inferior alcohol, as illustrated by a quotation from Hodgson, a colonial officer in the Gold Coast: *“Africans were sold semi-poisonous compounds under the name gin!”* (Pan, 1975, p. 15). Soon, the adverse consequences of the increasing alcohol consumption became clear, exemplified in the following testimony sent by an African Chief, Malike Mohammeden Emir of Nupe (i.e., the present-day Kogi state in Nigeria), who wrote in 1844: *“Rum has ruined my country; it has ruined my people. It has made them mad”* (Pan, 1975). To date, the consumption of high potency alcohol is an important feature of alcohol use in the region, with 14% of all alcohol consumed being wines and spirits (WHO, 2014).

Alcohol-related problems further increased in the post-colonial era (from the 1950s onwards), as the newly appointed governments were mainly driven by economic motives and expanded the industrial production instead of controlling alcohol use (Dumbili, 2014). The alcohol industry concentrated on increasing the availability and affordability of alcohol to the African population by adopting robust marketing strategies and cheap production techniques such as the use of local

materials and packaging in sachets (Jernigan & Obot, 2006; Swahn, 2013). Alcohol production and consumption have rapidly changed over the last two decades, as illustrated in Cameroon where the production and consumption are estimated to have grown by 400% in the last 20 years (Willis, 2006). The widening availability did not only lead to increased consumption in terms of the number of regular drinkers and the amount consumed, but also transformed the purpose of drinking into a leisure activity (Dumbili, 2014). Alcohol began to be shared by broader sections of the population, eroding the traditional culture of restricted access based on gender, status and age, and people started drinking all the year round (Willis, 2006). Several researchers have associated increased problem drinking and drunkenness with inadequate legislation, massive production and indiscriminate marketing of alcohol targeted at young people of 13–15 years (Jernigan & Obot, 2006; Swahn, 2013) and women who were hitherto not included in the alcohol drinking cohorts in SSA (Jernigan, 2014; Obot, 2006; Odejide, 2006). Also, eroding socio-cultural practices and norms played a significant role in this process, as African traditions restricted drinking depending on the circumstances and the socio-economic status of persons, while typical values such as communal living and sharing responsibility prevented alcohol misuse (Adelekan, 2008; Carlson, 1992). Recently, the global alcohol industry has marked the Sub-Saharan region as a potential growing market given the reported heavy drinking rates, burgeoning economies and the presence of a large population who is yet to start drinking (Jernigan, 2014). In the absence of adequate legislative measures, prevention and treatment initiatives (Swahn et al., 2011; Uganda Alcohol Policy Alliance, 2013), this scenario is likely to lead to an increase in the alcohol-related problems faced in the region.

1.1.2 Policy responses to alcohol misuse

Policy responses can be regarded as any purposeful effort or authoritative decision on the part of a government or non-governmental group to minimize or prevent negative alcohol-related consequences (Babor et al., 2010). In pre-colonial times, alcohol consumption was informally controlled by the family. It was influenced by customary practices and public drunkenness was considered shameful and in some cases even punishable (Odejide, 1989, 2006; Pan, 1975).

Although traditional African societies had unwritten policies, the demand for formal regulations emerged in the mid of the 19th century when the growing negative consequences of alcohol misuse became apparent. For example, Malik Mohammed Emir of Nupe of the Niger requested the Queen of England to prevent alcohol from being brought into his land (Pan, 1975). In East Africa, the sale of alcohol to Africans was prohibited in the 1920s. According to Gledhill (1963), the proponents of alcohol restrictions got initial backing from religion (Christianity and Islam), which emphasized the necessity of abstinence from alcohol as well as moral benchmarks for their followers. Amid these demands for restricted use but fully aware of the economic significance of alcohol, colonial governments introduced liquor licences in the beginning of the 20th century (Heap, 2005). These initial efforts formed the basis for alcohol policy regulations in SSA that were further elaborated by post-colonial governments. From the start, however, commercial interests always subdued public health concerns (Heap, 2011), leading to greater emphasis on pricing and taxation (Odejide, 2006) than on information and prevention.

The WHO has suggested the implementation of comprehensive alcohol control policies and (restrictive) regulations and legislation as priorities for tackling alcohol-related harm in contemporary Africa. Yet, such measures are no magic bullet and policy responses are sluggish in enactment and almost non-existent in most SSA countries (Table 1.2) (WHO, 2010b, 2010c). The proportion of African countries with a substance abuse policy is the lowest globally (32.6%) (WHO, 2010a). As evident from Table 1.2, only 5 of the 15 randomly sampled countries have written national alcohol policies. While alcohol is the most abused substance, only 2.3% of the SSA countries have an alcohol treatment policy (WHO, 2010a). Recently, Lesotho, Swaziland, Uganda, Zambia, Malawi, Ghana, Kenya and South Africa have attempted to enact policies (Bakke, 2010), with varying degrees of success.

Table 1.2

Policies and regulatory measures in a random number of SSA countries (WHO, 2014)

Country	Written national policy (adopted/revised) /National action plan	Excise tax on beer/wine /spirits	National legal min. age for off-premise sales of alcoholic beverages	Restrictions for on-/off-premise sales of alcoholic beverages	Legally binding regulations on alcohol advertising/ product placement	Legally binding regulations on alcohol sponsorship/ sales promotion	Legally required health warning labels on alcohol advertisements/ containers
Benin	No/–	Yes/Yes/Yes	No	Minimal	No/No	No/No	No/No
Chad	No/–	Yes/No/Yes	18	Minimal	No/No	No/No	No/–
Comoros	No/–	Yes/Yes/Yes	18	Minimal	No/No	No/No	No/No
Congo	Yes (1977/1960)/No	Yes/Yes/Yes	18	Yes	No/No	No/No	No/No
D.R. Congo	Yes (1968/2008)/No	Yes/Yes/Yes	18	Minimal	Yes/Yes	No/No	No/No
Ethiopia	No/–	Yes/Yes/Yes	18	Minimal	No//No	No/No	No/No
Gabon	No/–	Yes/Yes/Yes	18	Minimal	No/No	No/No	No/No
Guinea	No/–	Yes/Yes/Yes	18	Minimal	No/No	No/No	No/No
Kenya	Yes (2010/2011)/Yes	Yes/Yes/Yes	18	Yes	Yes/Yes	Yes/Yes	Yes/Yes
Namibia	No/–	Yes/Yes/Yes	18	Minimal	No/No	No/No	No/No
Nigeria	No/–	Yes/Yes/Yes	18	Minimal	Yes/Yes	No/No	No/No
Rwanda	No/–	Yes/Yes/Yes	18	Minimal	Yes/Yes	No/No	No/No
Seychelles	Yes/(2003)/Yes	Yes/Yes/Yes	18	No	Yes/Yes	No/No	No/No
South Africa	Yes/(1999/2007)/Yes	Yes/Yes/Yes	18	Minimal	No/No	No/Yes	No/No
Togo	No/–	Yes/Yes/Yes	No	Minimal	No/No	No//No	No/No
Uganda	No/–	Yes/Yes/Yes	18	No	No/No	No/No	No/No

Even in the few countries with written alcohol policies such as Kenya, South Africa and Lesotho, these measures have not yielded the desired reduction in alcohol consumption and related negative consequences (Achuka, 2014). Several authors have attributed the failing policy responses in the region to the interference of economic interests in the legislation process (Bakke, 2010; Dumbili, 2014; Heap, 2011) and the lack of overall public health objectives supported by government commitment (WHO, 2010b, 2010c). Preliminary regulatory efforts have primarily targeted informal alcohol production (Adelekan, 2008) and defended the traditional markets of already established companies (Dumbili, 2014). In the 1960s and 1970s, post-colonial

governments took on alcohol brewing as a regulatory measure to control quality and price as exemplified in Namibia (Gewald, 2002) and South Africa (Eales, 1989). Their monopoly was short-lived as the wave of economic liberalization in the 1980s and 1990s opened the door for private investments in the alcohol sector (Bryceson, 2002). As in many other countries, these governments are in a conflict of interest, since they have economic interests vested in the business that they are supposed to regulate.

The original policy intentions leading to nationalization, taxation and pricing were not aimed at controlling consumption but at raising revenues (Odejide, 2006). Although SSA countries charge excises on alcohol, they do not require health warnings on alcohol advertisements nor impose legally binding regulations on alcohol sponsorship or sales promotion (WHO, 2014). The reluctance of governments to control alcohol production and sale has given way to self-regulation, a concept strongly boosted by the alcohol industry (Dumbili, 2014). However, in the absence of clear standards regarding legally required health warning labels (Table 1.2), this initiative has been left to the discretion of the alcohol industry. Self-regulation has taken different forms, such as the drink responsibly (DR) message and campaign in Nigeria (Dumbili, 2014), resulting in the neglect of public health issues as industries consistently defy their own guidelines (Jernigan, 2014). Moreover, the alcohol industry discourages public health-oriented policies through donations, lobbying, threats, bribery and active opposition to public health issues (Jernigan, 2014). For example, the development of a national alcohol policy in Uganda has stagnated since 2003, when activists blamed the government for allowing the beer industry to promote her interests (Uganda Alcohol Policy Alliance, 2013). To date, there is no policy to regulate alcohol production or guide prevention and treatment of alcohol related problems in Uganda.

1.2 Alcohol misuse: The case of Uganda

Uganda is a Sub-Saharan country in Eastern Africa along the equator. The country covers 241038 km², with an estimated population of 35.6 million inhabitants and an average life expectancy of 50 years (Population Secretariat & UNFPA, 2012). With 78% of all Ugandans younger than 30 years and 52% younger than 15 years, Uganda's population is considered to be the second youngest in the world (Population Secretariat & UNFPA, 2012). Since 1962, when the country became

independent from its British colonial masters, Uganda has undergone several political upheavals that led to five violent changes of governments until 1986, when the current regime took over. Although these internal conflicts have now subsided, Uganda is faced by challenges such as high poverty levels (24% of the population lives below the poverty line) and a high disease burden (e.g., the prevalence of HIV/AIDS and malaria is 7.3 and 36.2%, respectively) (Population Secretariat & UNFPA, 2012). Agriculture accounts for 26% of the Gross Domestic Product (GDP) and employs 66% of the population. Although the Ugandan economy is primarily service-based (services account for 45.5% of the GDP and employ 28.4% of the population), the sector struggles with glaring needs. For example, the doctor–patient ratio in the public health sector is 1 per 12,500 inhabitants, which is considerably higher than rates in West-European countries such as Belgium (1:220), Italy (1:240) or France (1:300) (Population Secretariat & UNFPA, 2012).

Numerous studies have shown a correlation between alcohol abuse and adverse societal effects (Jernigan, 2014). Globally alcohol is ranked third among the leading global risks for burden of disease as measured in disability-adjusted life years (DALYs), but in Uganda, it is ranked second risk factor (after tobacco) for poor health and premature death (WHO, 2014) and a catalyst of other social problems (Abushedde, 2013; Graham et al., 2011). A worldwide survey of socio-economic consequences of alcohol consumption suggests that Uganda has the highest rate of alcohol-related negative consequences (acute endorsement, personal and social harms) among listed drinkers (Graham et al., 2011).

The number of inhabitants with AUDs is estimated by official authorities to be 9.8% of the total population (Kabwama et al., 2016). However, hospital-based studies in central Uganda show considerably higher prevalence rates among HIV/AIDS patients (47%) and patients in primary health care centers (PHC) (17%) (Hahn et al., 2014; Kalema, 2012; Kullgren et al., 2009). Documented health consequences related to alcohol misuse include the spread of HIV/AIDS (Uganda AIDS Commission, 2007), various somatic and psychiatric disorders, physical disabilities and high mortality rates (Affinnih, 2002; Andrews et al., 1999; Swahn, 2013). Alcohol misuse is further associated with an increase in problems such as domestic violence, family breakdown, non-communicable diseases (e.g., cardiovascular diseases, diabetes), poverty, violence and crime

(Swahn, 2013; Tumwesigye & Kasirye, 2005). The production and consumption of informal alcohol is linked with specific problems, such as unsafe sexual practices, diarrhea, organ system damage, trauma, gender-based and domestic violence, depression, child abuse and neglect, and diversion of funds from food and other family expenses in the community (Adelekan, 2008). Cases of instant disability and mortality due to the consumption of contaminated alcohol occur frequently: between 2008 and 2010, Uganda officially reported 329 deaths as a result of the consumption of adulterated alcohol (Uganda Alcohol Policy Alliance, 2013). Officially, 5% of the mortality is directly attributed to alcohol (WHO, 2014).

1.2.1 Treatment of alcohol misuse in Uganda

The increase of adverse alcohol-related consequences has given rise to the establishment of treatment and rehabilitation initiatives for alcohol dependent individuals. These initiatives are currently still in their infancy, few in number, scantily documented (Kalema, Vindevogel, Baguma, Derluyn, & Vanderplasschen, 2017a) and lack a national policy to guide their operations outside the mainstream health care. Basically, two treatment systems coexist with a varying prevalence throughout the country: traditional general health care services and specialized rehabilitation centers. Also, traditional healers commonly claim to treat alcoholism and it is estimated that about 60% of the population seek general health care from them (Ministry of Health (MoH), 2010a). They are known to offer brief counseling to clients and support them with herbs of which some work as anti-abuse medication but their methods and practices are hardly documented and difficult to trace. While mainstream health care services depart from the traditional disease model for treating AUDs, specialized rehabilitation centers integrate biological, psychological, social and spiritual elements in their approach.

Treatment setting and services: Uganda counts 2,855 health care units, including 105 hospitals. Hospitals are staffed by the public and private sector and are usually the first and most frequently contacted places by persons with alcohol-related health complications. Consequently, the government has set guidelines for the screening and management of acute and chronic alcohol poisoning in these centers (MoH, 2010b; WHO, 2010a). Primary Health Centers (PHC) provide inpatient hospitalization to persons with AUDs during the acute intoxication phase; they manage

detoxification and other medical needs of patients, usually for a short period of time (MoH, 2010b; WHO, 2010a). Persons with psychiatric crises are referred to regional referral hospitals (n=11) that treat severe alcoholism and psychiatric co-morbidity (MoH, 2010b). Although some government owned hospitals and non-governmental organizations (NGO) offer outpatient alcohol treatment in mental health care centers (WHO, 2010a), the majority of persons who undergo hospital detoxification go home afterwards and few have access to specialized (residential) treatment (MoH, 2010b). AUD patients in need of further management are referred to specialized treatment by mainstream health care facilities and/or law enforcing institutions such as the police, who are aware of the existence of these services. Uganda has only one public alcohol and drug unit found in the Butabika national psychiatric referral hospital. Other specialized rehabilitation services are provided by 7 centers, mainly concentrated in the capital city, Kampala. Clients in residential treatment centers are kept in settings that limit their contacts with the external environment to restrict access to alcohol.

Treatment philosophy: AUD treatment evolved out of the Alcoholic Anonymous (AA) work that was started in the 1980s by American missionaries who introduced the Minnesota model of chemical dependency treatment in Uganda (Gelinas, 1990). This approach is characterized by a fixed-length inpatient rehabilitation program, with roots in the Hazelden Foundation and the Johnson Institute (Sullivan & Fleming, 1997) and is implemented in varying intensity depending on the resources of the particular treatment centers. Although the Minnesota model initially required 28–30 days of inpatient treatment followed by extensive community-based aftercare (Sullivan & Fleming, 1997), residential rehabilitation in Uganda usually lasts for about 90 days due to difficulties in providing subsequent aftercare sessions. Treatment centers subscribe the AA 12-step orientation as a major tool for recovery and relapse prevention. Abstinence is always the final treatment objective, as continued use is assumed to lead to relapse and loss of control over drinking behavior. Self-help groups like AA for clients and Al-Anon for their relatives are invited to provide mutual support and encourage abstinence during and after formal treatment. Even cognitive behavioral therapy (CBT) activities are largely based on the AA 12-steps recovery programs which are intended to change clients' lifestyle through self-monitoring and peer support (building new relationships with alcohol-free friends), substitute alcohol with new recreational

activities and reward abstinence (Kalema, 2008; Sullivan & Fleming, 1997). The AA 12-step orientation is hence used as a major tool for recovery and relapse prevention. Each client gets a buddy (sponsor), usually an experienced AA member with whom to work through the 12 steps recovery program. Participation in daily in-house and weekly general AA meetings is encouraged for residents and discharged clients, as the backbone of treatment and major form of continuing care respectively. Since alcohol addiction is regarded an immediate consequence of the availability of alcohol and the related conditioning process, alcohol is banned in places of rehabilitation.

Treatment programs: Specialized treatment programs integrate biological, psychological, social, and spiritual elements (a bio-psycho-social spiritual model). Psychological, psychiatric and medical assessments are performed at the beginning of and during treatment to determine clients' treatment needs and health risks. A common assessment tool is the CAGE questionnaire (Ewing, 1984) which suggests 80% chances of alcoholism for a respondent who registers at least one score out of the possible four. Otherwise, the main alcohol abuse screening tool is the 'AA-12 Questions index for alcohol dependency' which indicates alcohol abuse in case of a score equal to or above four (A.A. World Services, 1973). Clients are offered various psychosocial activities which normally constitute the bulk of treatment interventions. Clients who have stabilized after detoxification are exposed to a variety of CBT with the purpose of changing their lifestyle (values, attitudes and behaviors) to support non-drinking habits. The overall goal of the activities is to teach new behaviors and cognitions that allow old habits to be controlled by new learning.

Education about chemical dependency provided through lectures, readings, and publications help clients and designated others understand the diagnosis and effects of alcohol. Education emphasizes the benefits of treatment and touches upon numerous other substance abuse related topics, which also includes the teaching of new coping skills and cognitive restructuring (Brower, Blow, & Beresford, 1989) all directed at enforcing self-control. Through educational sessions, clients are taught to recognize high-risk situations or emotional 'triggers' that induce alcohol (ab)use how to cope with craving and are informed on developing contingency plans for handling stressful situations (Amanya, 2011; Kalema, 2008; Sullivan & Fleming, 1997).

Individual and group therapy are important components, as well as the involvement of the family in treatment planning and aftercare. As part of individual counseling, a therapist is assigned to each individual client to give them and their social network confidence and trust in recovery. This is particularly important in the early stages of treatment to prevent dropout and encourage participation. As treatment progresses, clients are introduced to group therapy to experience closeness, share experiences, communicate feelings and build mutual support. The discussions often extend beyond alcohol-related topics to include other issues affecting clients as they emerge (Sullivan & Fleming, 1997). Through individual, group and family sessions, therapists revisit cognitive processes that lead to maladaptive behavior, intervene in the chain of events that lead to alcohol abuse and promote and reinforce necessary skills and behaviors for achieving and maintaining abstinence. Family therapy focuses on alcohol use behavior of clients in relation to the maladaptive patterns of family interaction and communication. Family members are stimulated to help ensure compliance to the treatment plan and monitor abstinence.

Furthermore, life skills, livelihood skills and spiritual programs are offered to supplement the above-mentioned therapies. Under life skills programs, clients are supported through self-awareness/help skills like stress management/relaxation techniques and interpersonal and decision-making sessions to empower them with skills to sustain a sober life. Purposeful recreational activities in the form of games, sports and peer entertainment through creative art and occasional picnics are as well designed to give a therapeutic and relaxation effect to the clients. Livelihood skills, provide clients with hands on/entrepreneurial skills such as craft making. Spiritual care services which include daily devotions, meditation and prayers and routine retreats are intended to deepen clients' faith values and help them to overcome their deficits. Proponents of the moral model of addiction allege that in order to sustain their addiction, alcohol abusers adopt a dysfunctional lifestyle characterized by dishonesty, selfishness, isolation and blame which eventually leads to feelings of loss, despair and suicide that can only be relieved by the re-establishment of a deep-seated sense of belonging, meaning and purpose in life (Alcoholics Anonymous, 2001; Sullivan & Fleming, 1997). Like the rest of the activities, the most commonly practiced type of spirituality is that of the 12 steps, which emphasizes the 'Higher Power' concept of God-the way he is understood by the client. Depending on the orientation of the treatment

centers, some clients are helped to perform preferred religious practices to strengthen their convictions.

Finally, pharmacological interventions are used, particularly for supporting detoxification and treatment of co-occurring disorders. Government guidelines for management of alcoholism include the application of four classes of drugs: anti-craving, antipsychotics, antidipsotropics and others for the common illnesses (MoH, 2010b; WHO, 2010). Anti-craving medication is commonly used such as benzodiazepines (diazepam, clonazepam) and Chlorpromazine to suppress withdrawal symptoms and block or reduce euphoric feelings. While antipsychotics such as Olanzapine and Risperidone are prescribed to improve clients' psychological state and to treat those presenting with comorbid psychiatric disorders, antidipsotropic drugs like Disulfiram (Antabuse) are prescribed to a limited extent for relapse prevention (Gary, Ogborne, Leigh, & Adam, 1999; MoH, 2010a; WHO, 2010a). Alcohol treatment centers are also stocked with other drugs to manage general health concerns of clients during treatment. Medical staff is responsible for the assessment and pharmacological treatment of alcohol and other co-occurring disorders, and works along with psychosocial professions (counselors and social workers) who use cognitive and behavioral approaches (WHO, 2010a).

Treatment gaps and obstacles: Challenges facing treatment of AUD in Uganda range from human resource capital over infrastructural and logistic limitations to treatment and quality of care-related issues (Kalema, Vindevogel, Baguma, Derluyn, & Vanderplasschen, 2017). First, many health professionals lack skills and competences to assess and treat patients with AUDs effectively (Kullgren et al., 2009). Second, specialized treatment is only publicly available (30 beds) at the National Mental Health Referral hospital Butabika in Kampala (Kigozi, 2005). Due to the stigma associated with mental illness, many alcohol misusers are discouraged from seeking public alcohol treatment in mental health care institutions (Sullivan & Fleming, 1997). The specialized private treatment initiatives are mainly concentrated in central Uganda and are hardly accessible and affordable for the majority of Ugandans due to the long distance and relatively high costs (~15 EUR per day) (Kigozi, 2005). Finally, the predominance of the Minnesota model can be considered as a major limitation, since it has been criticized repeatedly for focusing on addiction as an

incurable disease and for regarding addicts as people with pathological personalities (Thompson, 2007). For example, the model ignores significant elements of recovery such as clients' wellbeing by measuring success based on abstinence from all mood-altering substances. Even the use of prescribed mood-altering drugs is seen as relapse (Huebner & Kantor, 2011). The combination of the above-mentioned factors challenges the establishment and organization of alcohol treatment in Uganda and eventually leads to the neglect of the needs of the vast majority of excessive drinkers (WHO, 2010a).

1.3 Towards culturally adapted effective treatment for alcohol AUDs in Uganda

Since treatment of AUDs is among the global strategies to prevent harmful use of alcohol (WHO, 2008), evidence-based approaches form an important foundation for organizing alcohol treatment programs not only in Uganda, but in the whole Sub-Saharan region. Scientific research is well needed to assess the appropriateness of available practices and interventions and to support the implementation of culturally sensitive interventions and policies. Although the majority of people who meet the criteria for alcohol abuse do not seek formal treatment (Colpaert, De Maeyer, Broekaert, & Vanderplasschen, 2013), research has demonstrated that treatment plays a significant role in reducing alcohol-related problems (Welch, Rettammel, & Moberg, 2002). This doctoral research project was initiated to review existing treatment programs for alcohol users and benchmark culturally sensitive interventions for Uganda. Besides a review of the available literature, the study is intended to distinguish local perspectives on alcohol addiction, examine basic characteristics of AUD service users and assesses their early recovery prospects in relation to current treatment.

1.3.1 Problem statement

Despite the high prevalence of alcohol problems in Uganda, available treatment initiatives are limited and not well guided, resulting in low AUD detection and treatment participation rates. Treatment of AUD is a relatively new feature, only dating back 10 to 20 years. Based on the history of alcohol treatment, it appears that no prior preparations and baseline information was collected to plan and address the needs of potential service users in alcohol abuse rehabilitation centers, yet the currently adopted Minnesota model has documented limitations which for Uganda's case

are compounded by inadequacies in human resources, infrastructure and logistics. The state of AUD treatment in Uganda therefore casts doubt over its efficacy and urges for remedies and alternatives.

1.3.2 Research objectives

It is expected that results of this ground-breaking research on residential treatment will offer clinicians, policy makers and researchers useful information for developing culturally sensitive approaches that are necessary for providing effective treatment of AUD in Uganda and neighboring countries. It is anticipated that empirical evidence on treatment and its outcomes gathered in this study will justify appropriate allocation of resources and additional initiatives needed in Uganda and other Sub-Saharan African countries to control the emerging alcohol problem.

The specific objectives are fivefold:

- First, to highlight harmful alcohol use patterns and to examine policy interventions in SSA, with a specific focus on Uganda to showcase current treatment interventions;
- Second, to document service users' and treatment providers' perspectives on alcohol addiction and its facilitating factors in Belgium and Uganda and factors affecting treatment participation and recovery in Uganda;
- Third, to investigate treatment motivation levels and its influencing factors among persons entering AUD treatment in Uganda.
- Fourth, to assess predictors of early recovery after residential alcohol treatment and to examine the role of addiction severity, psychopathology, treatment setting and retention and other mediating variables;
- Finally, it is our objective to formulate recommendations regarding the implementation of effective, culturally adapted strategies and interventions for the treatment of individuals with alcohol use problems in Uganda and similar settings.

1.3.3. Research questions and methodology

The study applies a mixed methods design, combining both qualitative and quantitative research methods and a review of the literature. We distinguish between 4 work packages (WP), which are related to the above-mentioned research objectives. Overall, we want to address following research questions in this study:

WP 1: Literature review on alcohol (mis)use and policy and treatment responses in SSA

Research questions: *What is the available evidence regarding alcohol use, misuse and harm control measures in the SSA region? What gaps exist in current AUD treatment services in Uganda?*

As a foundation to this research, we begin with a literature review on the general alcohol (mis)use situation in Uganda as part of a regional trend. First, the origins of alcohol misuse and policy initiatives in SSA are studied. Then, the consequences of alcohol misuse in Uganda are explored, as well as policy responses. Information on alcohol-related problems and on current treatment interventions in Uganda is considered to be of paramount importance for the rest of the WPs. Therefore, we review the history, approaches, components and settings of AUD treatment to identify existing gaps and shortcomings and how these challenge the delivery of effective services in Uganda.

WP 2: Qualitative study on alcohol addiction, its facilitating factors and treatment challenges in Uganda

WP 2A: Comparative study on alcohol addiction and its facilitating factors in Belgium and Uganda

Research question: *What commonalities and differences exist in the conceptualisation of alcohol addiction and its facilitating factors in Uganda and Belgium?*

To gain insight in unique features of AUDs in Uganda, we made a comparison of perspectives of addiction and its facilitating factors with a country that has a longer tradition of treating alcohol problems (Belgium). Awareness of distinct features of alcohol use is considered an essential foundation for context-specific interventions, since the application of addiction treatment models

that are generated elsewhere and transferred to other cultural settings have often led to misguided, erroneous and conflicting results (Chen & Nath, 2016).

Sixty qualitative interviews (40 with service providers and with 20 service users) were administered in four alcohol treatment centres, two in Uganda and two in Belgium. Interviews were transcribed and analysed thematically using NVivo software. To compare perceptions of the facilitating factors of alcohol addiction, the Capability, Motivation, Opportunity – Behaviour model (COM-B model) was selected for its ability to accommodate a wide range of theoretical perspectives through which the initial presentation and eventual development of addiction in a particular society can be understood (West, 2013) (Chapter 2). Since the COM-B model is a general behavioural model, conceptualisation of AUD in the DSM-5 was used to appraise perspectives on symptoms of alcohol addiction in both societies.

WP 2B: Treatment challenges for alcohol service users in Kampala, Uganda

Research question: What underlying factors challenge participation in AUD treatment in Uganda?

Despite its high prevalence, individuals' alcohol use is rarely screened by health care professionals in primary health care settings in Kampala, Uganda (Kullgren et al., 2009). Consequently, less than 20% of the problem drinking population in Uganda receives treatment (WHO, 2010a). Increasing treatment participation of persons with substance use disorders (SUDs) is a global challenge, but knowledge on obstacles keeping people from entering or continuing treatment is scarce in majority countries. This study (Chapter 3) is based on a subsample of the 60 participants described under WP 2A. We studied 30 in-depth, qualitative interviews with 20 service providers and 10 male service users regarding the lived challenges of AUD treatment participation in Uganda. Participants were recruited at one public and one private alcohol treatment centre in the Ugandan capital city, Kampala. Interview data were analysed thematically, using NVivo software, and were categorized around three clusters of treatment challenges: societal, institutional, and personal challenges.

WP 3: Quantitative study on motivation for treatment and other predictors of early recovery among AUD treatment users in Uganda

This WP includes two separate empirical studies, which are based on the same sample (n = 100), recruited in two residential addiction treatment centres; a 30-bed ward in a public psychiatric hospital and a small scale not for profit non-governmental organisation with 15 beds, both located in Kampala. The same instruments were administered in both settings: the WHO QoL–BREF, Addiction Severity Index–6 (ASI–6) and Hopkins Symptom Checklist–37 for Adolescents. These measures were administered within two weeks from admission and six and twelve months later to gauge QoL, addiction severity and psychological wellbeing, respectively. Motivation for treatment and treatment satisfaction was assessed at treatment entry, using the Texas Christian University Treatment Needs and Motivation Scale (TCU MotForm). After 30 days of treatment, the Treatment Perception Questionnaire (Marsden et al., 2000) was administered to assess participants’ satisfaction with treatment. Although both sub-studies are based on the same sample, each chapter represents a different focus and analyses of specific aspects related to AUD treatment and recovery.

WP 3A: Correlates of motivation for treatment among alcohol service users in Kampala

Research questions: *What are the motivation levels for alcohol users starting AUD treatment? What are factors related to treatment motivation among alcohol service users in Uganda?*

Considering the universal importance of motivation for behavioural change and recovery in particular, this study (Chapter 4) explores AUD treatment motivation levels and its correlates among 100 individuals upon entering treatment for AUD. Using indices of QoL, alcohol addiction severity and psychological wellbeing, we study whether similar factors affect internal and external motivation for treatment and which specific correlates can be identified in this specific context. Determinants of motivation are identified using linear regression analyses.

WP 3B: Predictors of early recovery among AUD treatment recipients in Uganda

Research questions: *What are the outcomes of residential AUD treatment on alcohol users' QoL, addiction severity and psychological wellbeing? What baseline characteristics predict reduced alcohol addiction severity after six months of treatment initiation?*

The main part of this research (Chapter 5) is a longitudinal study of client characteristics before and after treatment and correlates of early recovery. The aim of this section is to investigate personal, social and environmental aspects associated with recovery. We therefore examine the role of addiction severity, treatment setting, retention, psychological distress and treatment engagement on recovery after initial alcohol treatment. Seventy-eight respondents were re-interviewed six months after admission to identify recovery elements and its predictors. Changes regarding continuous variables were measured using paired t-tests, while categorical values were analysed using the McNemar test. Correlates of alcohol use at the six month follow-up were identified using linear regression analyses.

WP 4: Recommendations regarding effective, culturally adapted interventions for AUD in Uganda

Research question: *What are the salient features of appropriate and effective AUD services in Uganda?*

In the concluding section (Chapter 6), we highlight major findings of our research and discuss cross-cutting issues arising from the previous chapters/WPs. We further debate our major findings in the light of previous empirical findings to suggest possible remedies/alternatives for AUD treatment in Uganda.

1.4 Terminology

Over the years, naming of alcohol use problems has been influenced by geographical, social and professional dimensions. Below, we highlight some of the most frequently used terms and concepts, and the circumstances and arguments we considered for their inclusion.

- **Alcohol abuse, alcohol misuse, alcohol addiction, and AUD**

Alcohol abuse and alcohol misuse: In chapter one, these two terms are used almost interchangeably due to the closeness in their technical definition. The term ‘alcohol misuse’ is used to mean consumption of alcohol that puts individuals at increased risk for adverse health and social consequences (US National Institute on Alcohol Abuse and Alcoholism). ‘Alcohol abuse’ was used to refer to chronic or periodic drinking characterized by impaired control over drinking, frequent episodes of intoxication, preoccupation with alcohol and the use of alcohol despite adverse consequences (American Psychiatric Association (APA), 2000).

Alcohol addiction, dependence and AUD: Despite much controversy (Lewis, 2015), the term ‘addiction’ has withstood the proof of time and remains the commonest way of referring to alcohol use problem(s), also in popular media. Dependence is a scientifically sound term, including clear criteria and symptoms like withdrawal, tolerance, craving, etc. In 2013, the APA, through their Diagnostic and Statistical Manual of Mental Disorders (DSM), recommended to use the overarching term ‘AUD’ for its neutrality and propensity to classify a wide range of features relating to alcohol use problems. It includes all the criteria previously attributed to ‘abuse’ and ‘dependence’, respectively.

Generally, we use the term AUD in this dissertation to represent the continuum of alcohol related disorders; specific terms (like misuse, dependence, heavy episodic drinking) are used to describe specific features of AUD. Alcohol addiction is used in the qualitative studies to refer to severe cases of AUD (APA, 2013, p. 519).

- **Clients, patients, users, abusers, addicts and dependent individuals**

Depending on the context or setting, the way that treatment-seeking persons are named or referred may differ to a large extent, including residents (e.g., therapeutic communities), patients (e.g., psychiatric hospitals) or clients (e.g., outpatient centers for mental health care) (Colpaert, 2012). Overall, we have tried to stay as close as possible to the terminology as it was used in the treatment settings that participated in this research. However, to avoid stigmatising and judgmental connotations (as suggested in the DSM-5), we tried as much as possible to avoid the use of terms that personalize the problem or disorder, like ‘alcohol addict’, ‘alcohol abusers’ or ‘dependent individuals’. As this has been a personal learning process, readers may observe a shift in terminology between the introductory and last chapters, in which we preferably use the term ‘alcohol users’.

PERSPECTIVES OF ALCOHOL TREATMENT PROVIDERS AND USERS ON ALCOHOL ADDICTION AND ITS FACILITATING FACTORS IN UGANDA AND BELGIUM²

Abstract

Background: Although conceptualisation of addiction varies with time and culture, literature on intercultural studies between high- and low-income countries is scarce. This article uses DSM-5 guidelines on diagnosis of AUD and the COM-B model to explore perspectives on alcohol addiction and its facilitating factors in Uganda and Belgium.

Method: Sixty qualitative interviews (40 with service providers and 20 service users) were administered in four alcohol treatment centres, two in Uganda and two in Belgium. Interviews were transcribed and analysed thematically using NVivo software.

Results: While addiction was primarily regarded as a disease enabled by capability factors (affordability and absence of life and social skills) by Belgian respondents, many Ugandans viewed it as a moral or criminal issue, motivated by the varied roles of informal alcohol use amidst weak restrictions. Opportunity-related factors including: acceptability, availability, media influence, cultural/religious beliefs and practices and peer influence were recognised as facilitating factors in both countries, where stigma was equally prevalent.

Conclusion: Interventions in Uganda could explore strengthening legislation and research on utilisation of the well-entrenched religious and cultural institutions to encourage alternatives to alcohol use. In Belgium, promotion of life and social skills, alcohol regulation in educational institutions and other demand reduction strategies seem essential to delay the onset of (mis)use. In both societies, general reduction of opportunities for access, early intervention, programs for young persons and prevention of stigma through awareness-raising can be explored for mitigation of AUD.

Keywords: *Addiction; alcohol abuse; alcohol policy; perceptions; treatment; recovery and rehabilitation*

² This chapter is based on: Kalema, D., Vindevogel, S., Baguma, P. K., Derluyn, I., & Vanderplasschen, W. (2017). Perspectives of alcohol treatment providers and users on alcohol addiction and its facilitating factors in Uganda and Belgium. *Drugs: Education, Prevention and Policy*. doi: 10.1080/09687637.2017.1381667

2.1 Introduction

2.1.1 The multidimensional nature of addiction

According to Lewis (2015), the concept of addiction has been a battleground of opinions since the time of Aristotle. Perspectives on addiction are culturally dependent and vary by time and space (Egerer, 2013). Hence, an unequivocal definition of addiction is missing (Sulkunen, 2015). Although the use of the term addiction is criticised for individualising problem behaviour and putting treatment before prevention (Sulkunen & Warsell, 2012), its importance in explaining motivation, relapse cues, and behavioural and psychological aspects of dependence cannot be ignored (Sulkunen, 2015). Biological, moral, psychological and sociological theories have been used to explain addiction problems and respond to it, and its scope continues to expand (Lewis, 2015). Interpretations of these theories range from commonly referring to addiction as a condition of being abnormally (compulsively) dependent on some habit/substance (www.thefreedictionary.com) to complex definitions identifying it as a primary chronic disease of brain reward, motivation, memory and related circuitry (Lewis, 2015).

In his systematic review of addiction theories, West (2013) identified over ten groups of models that focus on individual mechanisms underlying addiction, each one addressing just a part of the problem. Besides these individual-focused models, West categorised social network, economic, communication and organisational system theories to describe addiction in terms of an interplay between population-level parameters. From these diverse perspectives on addiction, he concluded that a common perception of a *“repeated, powerful motivation to engage in an activity with no survival value, acquired through experience with that activity, despite the harm or risk it causes”* (West, 2013, p. 27) stands out.

2.1.2 The COM-B model

Since efforts to find a common definition of addiction stir more controversy than consensus, Sulkunen and Warsell (2012) recommended to tailor interventions around prevailing societal perceptions. A salient feature of current models and theories of addiction is that they are primarily based upon American and European studies (West, 2013), which raises questions regarding their generalizability to other cultures (Chen & Nath 2016). A cross-cultural approach is warranted to

understand addiction in non-western countries. West (2013) has suggested the use of the COM-B model as a potential strategy for understanding mechanisms preceding addiction. According to Michie, Stralen and West (2011), capability, motivation and opportunity are necessary ingredients for any behavior. Based on the COM-B model, alcohol addiction develops through interactions of these three behavioral factors. Capabilities are innate psychological and physical endowments possessed by individuals, including mental, motor and anatomy skills and facilities required to use alcohol or to resist impulses to drink. Opportunities are social and physical environmental factors that permit or promote alcohol use. Motivation factors describe 'reflective' and 'automatic' mental processes that energize and direct behavior processes that promote addiction and recovery. Although the COM-B model offers a framework for developing behavior change initiatives, it does not describe features and symptoms of addiction in specific terms. Consequently, an additional framework is necessary to understand manifest symptoms of addiction.

2.1.3 Classification of addiction problems

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; APA, 2013) mentions the common usage of the term addiction in many countries to describe "*severe problems related to compulsive and habitual use of substances*" (cf. supra; APA, 2013, p. 519). However, APA prefers to use the term 'substance use disorder' for its neutrality and propensity to diagnose a wide range of features of the disorder; from a mild form to a severe state of chronically relapsing, compulsive substance use. Accordingly, AUD is considered a cluster of cognitive, behavioural, and physiological symptoms, indicating that the individual continues using alcohol despite significant alcohol-related problems. More specifically, features of AUD include: 1) impaired control (use of larger amounts or over a longer period than intended, desire to regulate use, spending a great deal of time obtaining alcohol, craving); 2) social impairment (failure to fulfil obligations, continued use despite social/interpersonal problems); 3) risky use (use in physically hazardous situations, persistent physical and/or psychological problems caused by failure to abstain from alcohol, and continued use despite the difficulties it is causing); and 4) pharmacological criteria (tolerance and withdrawal). The threshold for AUD is established to at least two of any features, occurring at any time in the same 12-month period. In this paper, we will use the term 'AUD' to indicate a range of

problematic forms of alcohol use, while the word ‘addiction’ shall be used to describe extreme presentations of the disorder.

2.1.4 Intercultural studies on (alcohol) addiction

Considering the growing evidence regarding the importance of cultural sensitivity towards predicting treatment process and outcomes (Chen & Nath, 2016; Egerer, 2013; Koski-Jännes, Pennonen, & Simmat-Durand, 2016; Russell, Davies, & Hunter, 2011) and the general lack of research in this area (Fraser, 2016; Holma et al., 2011), this study aims at highlighting emic views on alcohol addiction among individuals involved in alcohol treatment in Uganda and Belgium. Intercultural studies on the intersection between addictive and non-addictive behaviours are important to improve insights on effective prevention and diagnostic/therapeutic strategies and to enhance information exchange on best practices in a world characterized by constant migration, in which addiction has become a global phenomenon (Chen & Nath, 2016).

In this study, two diverse socio-economic contexts are used as case studies to explore similarities and dissimilarities in factors facilitating alcohol addiction. Uganda is an East-African country with a mean age of 15.7 years (Central Intelligence Agency (CIA), 2017), numerous ethnic groups (43 different languages), and a GDP of \$672.81/capita, of which 75% is jointly contributed by the agricultural and service sectors (World Bank, 2017). Uganda is recovering from decades of post-colonial internal conflicts and facing high rates of illiteracy (29%) (Uganda Bureau of Statistics (UBOS), 2010) and disease burden (e.g., the prevalence of HIV/AIDS and malaria is 7.3 and 36.2%, respectively (Population Secretariat & UNFPA, 2012; Uganda AIDS Commission, 2016)).

Belgium is a Western-European industrial country with a mean age of 41.4 years and an estimated GDP of \$44,900/capita. The country consists of two major ethnic categories (Flemish (58%) and Walloon (31%)), while 11% is considered to be of ‘mixed’ or another ethnicity. The country has three official languages (French, Dutch and German) and hosts the European Union headquarters. Belgium is confronted with a rapidly growing multicultural population and faces high youth unemployment rates (23%). The country has a high urban population rate (97%) and the northern part (Flanders) is one of the most densely populated regions in the world (CIA, 2017).

Both Uganda and Belgium are faced with considerable alcohol problems that are associated with high levels of per capita alcohol consumption (9.8 litres in Uganda, 11 litres in Belgium) (WHO, 2014). Underage drinking is an increasing concern in both countries (Centre de Recherche et d'Information des Consommateurs (CROIC), 2011; Swahn, Palmier, & Kasirye, 2013; WHO, 2014). It is estimated that 9.8% of the Ugandan population suffers from AUDs (Kabwama et al., 2016), but despite Uganda's high alcohol-related burden (Graham et al., 2011) research on AUD is almost non-existent and treatment is new and limited to the capital city (Kalema, Vindevogel, Derluyn, Baguma, & Vanderplasschen, 2015). Moreover, Uganda lacks a National Alcohol Policy (NAP) (WHO, 2014) and uses an alcohol law (Enguli Act, 1965) which was drafted by the British colonists on the eve of the country's independence. On the other hand, Belgium has a NAP and a long treatment tradition, dating back to the 1960s. Substantial research is available on alcohol abuse and related problems (Vanderplasschen, De Bourdeaudhuij, & Van Oost, 2002). Despite several residential and community-based treatment services for persons with AUD and extensive prevention and early intervention efforts (Plettinckx, 2014), heavy episodic drinking (drinking ≥ 60 gram of pure alcohol on at least one occasion in the past seven days) among the general (34.3%) and youth population (38%) (Hibell et al., 2012; WHO, 2011) is an important public health concern in Belgium.

Several studies report similar facilitating factors for alcohol addiction in Africa and Western countries, often associating problem drinking with wide availability of alcohol, underage use, and drinking to intoxication (Dumbili, 2017; Egerer, 2013; Gual et al., 2016; Hibell et al., 2012; Naamara & Muhwezi, 2014; Tumwesigye, 2003; WHO, 2014). However, explanations of addiction based on biological vulnerability are more profoundly documented in Western countries (Egerer, 2013; Klingemann, Klingemann, & Moskalewicz, 2017), while African studies influences (Odejide, Oheri, Adelekan, & Ikuesan, 1992; Tumwesigye, 2003) commonly report on the association of addiction with moral and spiritual choices.

The expansion of addiction knowledge in low-income countries offers a learning opportunity for policy makers, practitioners and researchers, but is challenged by limited mental health and addiction research in these countries (Razzouk et al., 2010) and lack of collaboration with high income countries. Some recent studies (e.g., Chen & Nath, 2016; Egerer, 2013; Fraser, 2015;

Holma et al., 2011; Koski-Jannes et al., 2016; Russell, Davies, & Hunter, 2011) have addressed inter-nation and inter-culture differences, but like most previous explorations, these studies are confined to comparisons among high-income countries and only Chen and Nath (2016) refer to low-income countries.

Moreover, none of these studies purposefully explored the opinions of service users themselves, although they are crucial beneficiaries of alcohol policies and treatment interventions. Also, apart from the reports by Fraser and Egerer, the above-mentioned studies are based on perspectives among the general population and use a quantitative design. This information needs to be complemented by in-depth understanding of the factors associated with addiction, as perceived by service users and treatment providers who are confronted with these problems daily (Koski-Jannes et al., 2016).

2.1.5 Aims of the study

Application of addiction treatment models that were generated elsewhere and transferred to other cultural settings have often led to misguided, erroneous and conflicting results (Chen & Nath, 2016). This study is hence intended to contribute knowledge towards possible development and adaptation of prevention and treatment measures for AUDs in specific contexts. Since treatment providers and service users are crucial stakeholders in alcohol treatment, this paper applies a qualitative approach to highlight their perceptions of addiction across two different countries/cultures. This study aims at highlighting the conceptualisation of alcohol addiction and its facilitating factors in Uganda and Belgium and interrelated similarities and dissimilarities. To achieve this, the COM-B model was selected for its ability to accommodate a wide range of theoretical perspectives through which the initial presentation and eventual development of addiction in a particular society can be understood (West, 2013). Since the COM-B model is a general behavioural model, conceptualisation of AUD in the DSM-5 was used to appraise perspectives on the symptomatic presentation of alcohol addiction problems in both societies.

2.2 Methods

2.2.1 Respondents

This paper is based on 60 in-depth qualitative interviews that were administered among treatment providers and service users in four AUD treatment centres in Uganda and Belgium (see Table 2.1). Selected treatment providers are persons closely involved in service users' therapeutic processes, such as counsellors, psychologists, medical staff and social workers (Koski-Jannes et al., 2016) and one administrator/program co-ordinator in each centre, to understand the treatment philosophy and background of the participating organisations. Only staff members who had worked for at least one year in the service were eligible for participation. Inclusion criteria for service users were: a) been diagnosed with alcohol dependence as primary substance of abuse; b) been in treatment for at least two months; and c) being in a stable psychological and physical state at the time of the interview. Administrators/co-ordinators of the programs selected the respondents, based on these eligibility criteria. To represent the multidisciplinary composition of the treatment staff in the selected services, a greater number of treatment providers was selected than the number of service users.

Table 2.1
Characteristics of the study respondents

	Uganda		Belgium		Overall
	Providers n (%)	Users n (%)	Providers n (%)	Users n (%)	
Sex					
Male	13 (21%)	10 (17%)	12 (20%)	6 (10%)	41 (68%)
Females	7 (12%)	0 (0%)	8 (13%)	4 (7%)	19 (32%)
Age Range					
Below 20	0 (0%)	2 (3%)	0 (0%)	0 (0%)	2 (3%)
21 - 30	6 (10%)	4 (7%)	3 (5%)	0 (0%)	13 (22%)
31 - 40	7 (12%)	3 (5%)	6 (10%)	4 (7%)	20 (33%)
41 - 50	7 (12%)	1 (2%)	6 (10%)	4 (7%)	18 (30%)
51 - 60	0 (0%)	0 (0%)	5 (8%)	1 (2%)	6 (10%)
60 and above	0 (0%)	0 (0%)	1 (2%)	0 (0%)	1 (2%)
Experience at work (years)*					
1 - 5	12	N.A.	10	N.A.	22
6 - 10	7	N.A.	3	N.A.	10
11 - 15	0	N.A.	2	N.A.	2
16 - 20	1	N.A.	1	N.A.	2
21 and above	0	N.A.	4	N.A.	4
Average duration alcohol use*					
Below 5	N.A.	0	N.A.	0	0
6 - 10	N.A.	5	N.A.	0	5
11 - 15	N.A.	2	N.A.	1	3
16 - 20	N.A.	3	N.A.	3	6
21 - 25	N.A.	0	N.A.	5	5
25 and above	N.A.	0	N.A.	1	1
Education					
Postgraduates (Masters, PhD...)	4 (6%)	0 (0%)	8 (13%)	0 (0%)	12 (19%)
University Bachelors' Degree holders	6 (10%)	2 (5%)	11 (18%)	8 (13%)	28 (47%)
College Diploma/Certificate holders	10 (17%)	3 (5%)	1 (2%)	2 (3%)	13 (22%)
Students (College/University)	0 (0%)	5 (8%)	0 (0%)	0 (0%)	7 (12%)

* mean (years); N.A. = not applicable

Using purposive sampling, 40 AUD treatment providers and 20 service users were recruited from two alcohol treatment centres in Kampala (Uganda) and two services near Ghent (Belgium). The four selected centres differ in terms of type of facilities, program, nature of clients and staff. They all apply a bio-psycho-social treatment model with varying intensity, but offer comparable long-term residential treatment programs during one to three months. In Uganda, the study sites were the national psychiatric hospital, consisting of a 25-bed alcohol and drug treatment ward, and a small-scale non-governmental organisation with a bed capacity of 15 clients. In Belgium, respondents were recruited at alcohol treatment units in two psychiatric hospitals, with a bed capacity of 30 and 50 persons respectively.

Fifteen respondents (ten treatment providers and five service users) were interviewed at each site. Overall, 41 (68%) male respondents and 19 (32%) female respondents were recruited. Interviewed service providers (25 men and 15 females) had diverse professional background: 12 were nurses, nine psychologists, eight counsellors, four social workers, two pastoral workers, two psychiatric clinical officers, two psychiatrists and one physiotherapist. Service users were four females (all from Belgium), and 16 males. Apart from five Ugandan respondents who were students in higher education, the other participating service users (15) were university/college graduates.

Major disparities were observed among and between users and providers of alcohol treatment in both countries. For example, Ugandan service providers were on average 36.2 years and had 5 years of work experience in alcohol treatment, while Belgian service providers were older (52 years on average) and more experienced (8.7 years of work experience). The Ugandan sample of service users had a mean age of 24.5 years and had been dependent on alcohol for – on average – 6 years, while participating services users in Belgium had a mean age of 37.5 years and were dependent on alcohol for 20.3 years.

Although this sample is too small to adequately represent the characteristics of service users in both countries, some limitations should be noted. In the Ugandan sample, the absence of female service users is attributable to the low participation rate (< 10%) of women in alcohol treatment. Also, the high number of school-going respondents may not surprise, given the young average age

of the population (UBOS, 2014). The overrepresentation of highly educated alcohol users depicts an affluent group that can afford treatment.

2.2.2 Data collection

Data were collected using open-ended interviews that generally lasted 60 to 90 minutes. Interviews were administered in the participating treatment facilities. The interview guide was piloted among seven persons (five treatment providers and two service users) in the two countries. Feedback was incorporated in the final draft of the interview schedule that was, along with the research protocol, approved by the ethical boards of Faculty of Psychology and Educational Sciences at Ghent University (2014/11) and the Uganda National Council of Science and Technology (SS3511). Participants did not receive any incentive for participation in the study. Identified respondents were informed about the study and its ethical implications, provided written informed consent and with their permission, interviews were recorded with an audio device. To mitigate interviewer bias due to proximity to the own culture, the interviews in Belgium were conducted by the first author (Ugandan nationality), while those in Uganda were administered by a Belgian female master student in special needs education. Respondents had the option to be interviewed in English or their local language; all respondents agreed to be interviewed in English.

2.2.3 Data analysis

Collected data were analysed using thematic analysis methodology. Thematic analysis was chosen as it enables scrutiny of conceptual similarities and discovery of patterns of themes, which are frequently talked about by respondents (Braun & Clarke, 2006). All interviews were transcribed verbatim by members of the research team, including Ugandan and Belgian research assistants. The first author then read all the transcriptions to familiarise himself with the collected data and noted down initial ideas and patterns. These ideas formed the initial codes that were clustered, based on patterns emerging from the data using NVivo 11 computer software. Repeated patterns as seen by similarities in meaning and implications were then grouped to form sub-themes. Since this study is both theory and data driven, we employed both inductive and deductive approaches to data analysis. At the first (deductive) stage, data was coded around the three themes (research

questions) as earlier agreed upon by the authors, i.e., perceptions towards alcohol use, alcohol addiction and its facilitating factors. At the second stage, subthemes were inductively clustered under the established major thematic areas. These were presented to the research team that discussed, defined and, where necessary, (re)named the sub-themes (see Table 2.2). A report was subsequently produced basing on the coded data (see Figures 2.1 and 2.2). Finally, the codings on perceptions regarding alcohol use were merged with codings regarding facilitating factors due to the observed close relation between the two topics (see Figure 2.1). The COM-B model was then used to identify (similar and distinct) facilitating factors of alcohol addiction among respondents from both countries (see Figure 2.2). According to West (2013), the COM-B model provides one potentially helpful way for generating a high-level analysis of ongoing behaviour patterns, as well as a way for deducing the changes required to alter these patterns. It can be applied at the level of populations, subpopulations, social groups and individuals. Perspectives on the conceptualisation of AUD were assessed against the DSM-5 symptoms of AUD, which was chosen because of its wide use in clinical and educational settings in Belgium as well as Uganda. To strengthen the reliability and validity of the study findings, the results were discussed by all members of the research panel (co-authors) and with some staff members at each study site.

Table 2.2

Interview analysis: themes, sub-themes and node pervasiveness

Interview question	Theme (Perceptions)	Sub-theme	Node pervasiveness	
			UG	BE
<p><i>To both treatment Providers and Service Users</i></p> <ul style="list-style-type: none"> How does the society view alcohol use in general? How do people perceive alcohol addiction? How do people view users of alcohol abuse treatment services? <p><i>To Treatment Providers (only)</i></p> <ul style="list-style-type: none"> What are the features of alcohol/addiction? According to your experience, what reasons do clients give for alcohol/addiction? <p><i>To Service Users (Only)</i></p> <p>According to your experience,</p> <ul style="list-style-type: none"> What do you regard as proper use as compared to alcohol abuse/addiction? When does use turn into abuse? Why did you continue to use alcohol in spite of the its negative effects 	Factors associated with alcohol use	<i>Acceptability Availability</i>	6	9
		<i>Formal alcohol</i>	3	0
		<i>Informal</i>	2	0
		<i>Promotion (Role of mass media)</i>	1	1
		<i>Low risk perception (Effects)</i>	2	2
		<i>Medicinal purpose and others.</i>	2	0
		<i>Cultural/Religious (beliefs and practices)</i>	8	5
	Features of Alcohol abuse/Addiction	<i>Frequency of use/ Volumes consumed</i>	1	3
		<i>Preoccupation with alcohol</i>	3	2
		<i>Related negative consequences</i>	2	4
		<i>Making own alcohol Mixtures vs cheap spirits (Bel)</i>	2	3
	Addict	<i>Alcoholism as a disease</i>	1	3
		<i>Association with wrongdoing</i>	5	3
	Facilitating Factors of alcohol addiction	<i>Peers and underage</i>	3	3
		<i>Stress (full events)/lifestyle and Inadequate life skills</i>	3	6
		<i>Absence of restriction</i>	3	0
		<i>Affordability</i>	3	1

2.3 Results

Respondents' perceptions on facilitating factors for alcohol addiction indicate that all three components of the COM-B model are present, but vary in manifestation between Uganda and Belgium. While aspects of affordability (mainly in Belgium) and alcohol use for pain relief (in Uganda) feature capability and motivation factors respectively, opportunity-related factors were frequently mentioned in both countries, including acceptability, availability, media influence, cultural/religious beliefs and practices, peer influence and lack of restrictions. As in the DSM-5, respondents associated alcohol addiction with the frequency and volumes consumed and related negative consequences. Stigma against people with AUD was noted in both countries, despite different conceptualisations of alcohol addiction.

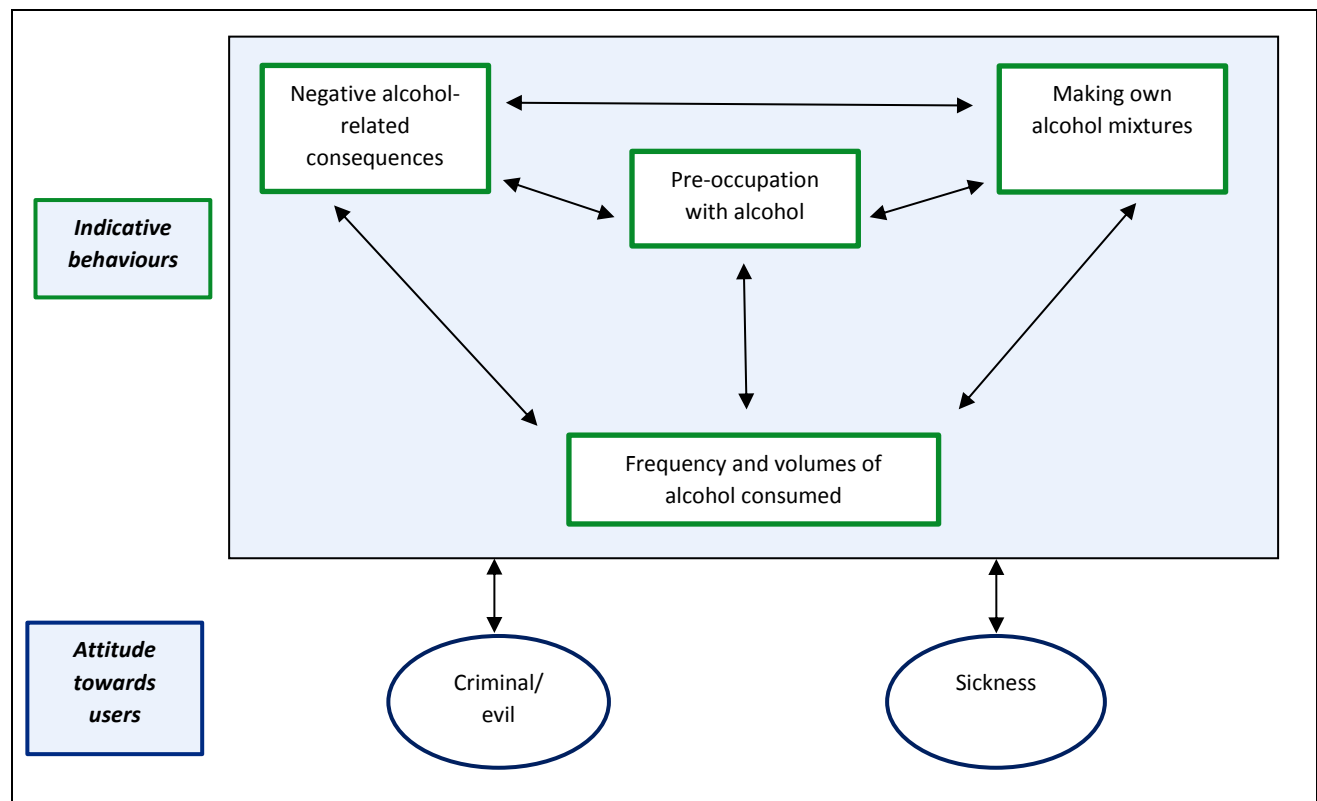


Figure 2.1. *Thematic analysis of perceptions towards addiction*

2.3.1 Similarities in perspectives on facilitating factors for alcohol addiction in Uganda and Belgium

Capability-related factors: In both countries, alcohol addiction was associated with drinking due to failure in utilizing alternative stress management strategies in an environment where alcohol is increasingly affordable. A Belgian nurse stated: *“We can afford everything. Now everybody has wine in his home, but 30, 40, 50 years ago, only the rich ... drank wine.”* A similar example was given by a Ugandan student who attributed affordability to cheap, sachet-packed alcoholic beverages that are widely available in Uganda.

“I had to substitute from Uganda waragi [a spirit brand] to much cheaper [alcohol]... Now, all this alcohol is a fifth of a dollar. It was so easy to keep the sachets and put it in your pocket. So, I would pick up four and put them in my pocket with about two cigarettes, take a walk, and drink ... So, by the time I got home, I was already drunk. I always park up and walk away.” (user, Uganda)

Responses from both countries showed that not knowing how to cope with stressful situations fuelled addictive behaviors. All service users mentioned stressful events and situations as triggers for their heavy drinking. For one participant, her divorce triggered excessive alcohol use: *“The real problem started after my divorce ... I had serious problems at work with concentration and stress. ... I used alcohol as medicine to keep calm. Gradually, it took over and I lost control completely”* (user, Belgium). Similarly, a Ugandan teenage user associated the onset of his addiction to the death of his parents: *“I lost both of my parents. I lost my dad in 2007, when I was 15. And I lost my mum, beginning of 2008. So, I couldn’t handle it”.*

Opportunity-related factors: Respondents narrated that stressful life events would not be a major reason for alcohol use, if it was not for the abundant opportunities that come in the form of wide availability and accessibility, promoted by peers and media influence. Generally, alcohol is reportedly entrenched in the day to day lives of people, extensively used for social functions and considered a ‘normal drink’. One counsellor from Uganda explained that alcohol has hospitality functions and visitors are served alcohol ‘like a cup of tea’. *“Everybody drinks ... Not everyone drinks a lot of alcohol, but at parties there is always alcohol, you can buy it in every shop”*, narrated a Belgian psychologist. *“You have a lot of products”*, added a Belgian nurse. Peer influence was

equally reported by respondents from both countries. Users gave examples where friends would take them regularly for ‘boozing episodes’ and laughed at them whenever they refused such offers: *“If you don’t have money, we buy for you”, or “I will wait for you”*. These sentiments were expressed by Ugandan service users, adding that their peers also gave them advice on cheaper liquor brands whenever they lacked money.

Motivation-related factors: The above-mentioned factors reinforce the existing pro-alcohol culture in both countries by minimizing the perception of danger and influence the motivation of users, along with pain relieving expectations. Service users as well as providers observe an overall low societal risk perception towards the harmful effects of alcohol in Belgium and Uganda: *“A lot of people don’t think that alcohol can be dangerous and they say ‘oh it’s fun and it’s nice to drink a bit’... And it is nice, but... they don’t always see what could go wrong”*, stated a Belgian psychologist. Also, the notion that alcohol abuse functioned as coping mechanism was stressed by several professionals, as evident from the following quotation:

“Then you look at the economic stress and alcohol alternatives. How do people deal with stress? It [alcohol] is an alternative way of coping with stress. They do not have any alternatives to deal with the stress. It is indeed therapy for them. So, how do they adjust without anything?” (psychologist, Uganda)

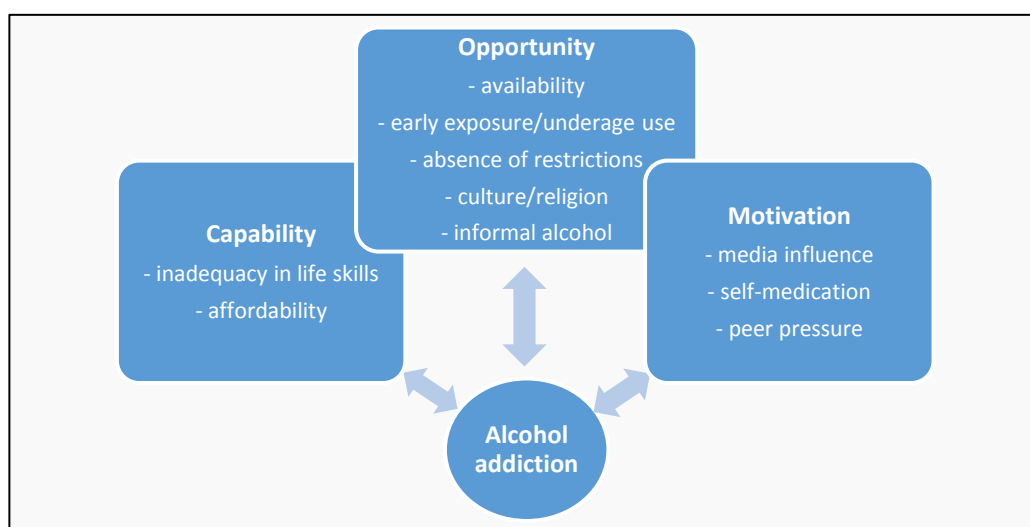


Figure 2.2. Classification of the facilitating factors of alcohol addiction using the COM-B Model

2.3.2 Dissimilarities in perspectives on facilitating factors for alcohol addiction in Uganda and Belgium

Some dissimilarities were noticeable at the level of capability and opportunity factors. Belgian respondents considered a combination of underdeveloped personal skills (such as low self-esteem and relational skills) and need for conformity as common facilitating factors for alcohol addiction. A Belgian service user explained how his alcohol consumption was triggered by the need to behave in a more extravert way.

“I used to be very shy, ... never answer any questions in group. But once... two girlfriends came to my studio and we opened a bottle of wine, and immediately I felt the fear was gone. I went to the lessons I didn’t do before. There was some wine leftover, which I drank the next day at noon and studying in the evening was easier. It was like comfort to read in my courses. So, all the tension I was feeling reduced with one glass at noon and one glass in the evening”. (user, Belgium)

Most Ugandan respondents regarded the easy accessibility as the main facilitating factor for alcohol addiction. Although accessibility was repeatedly mentioned as a cause of alcohol addiction, it is manifested differently in the two cultural settings. Accessibility in Uganda is enabled by the presence of alcohol factories in the community, omnipresence of alcohol in the form of sachets and homemade alcohol (with alcohol volumes as high as 60%) and further compounded by the absence of restrictions. In Belgium, alcohol is easily accessible, which – in combination with the low threshold for sale to minors (16 years) – can promote the early onset of alcohol use. Cultural practices and religious beliefs that promote alcohol use were frequently observed in Uganda, such as children’s introduction to alcohol at a tender age and the glorification of alcohol use by (especially) male members of society. Some Ugandan respondents further reported that alcohol is at times used as a medicine.

From participants’ responses, it can be noted that the line between facilitating factors for alcohol use and addiction is thin and ambiguous. Further still, respondents’ reports on facilitating factors in both societies were similar on many occasions, but differed in emphasis on specific aspects. The interplay between culture, media, underage use and peer influence was commonly cited by

respondents from Belgium and Uganda. While informal production and use of alcohol for medical purposes, and religious and customary functions was overemphasized in Uganda, lack of life skills and conformity factors were more pronounced among Belgian respondents.

2.3.3 Perspectives on the conceptualization of alcohol addiction in Uganda and Belgium

Respondents from both countries described alcohol addiction as 'dependence' and listed a combination of interrelated factors, such as the frequency of use/daily drinking, volumes consumed, preoccupation with the substance and related negative consequences. Alcohol-related negative consequences such as reduced socio-economic functioning and preoccupation with alcohol use were mentioned as typical characteristics of addiction by both Ugandan and Belgian respondents. Several respondents stated that treatment is regarded to be for the most severe cases only. *"They [society] think you have to be a drunk lying on the street to come here. When they think about our place, they think of the worst possible scenarios"*, stated a psychologist in a Belgian hospital. This perception is also illustrated by the following quotation of a Belgian service user:

"I was brought ... because I had some problems with my stomach and the liver due to excessive use of alcohol. At this point, you realize that your life becomes one big lie. You are lying to yourself, to your children, your family, your lawyer. You start to invent things. Generally, let's say that alcohol is the main issue in your life and all the rest becomes less important." (user, Belgium)

As far as volumes are concerned, respondents mentioned that although dependence is illustrated by the high quantities consumed, it is the potency of alcohol that matters most; therefore, problem users in both countries eventually switch to cheaper spirits, regardless of the brand. Ugandan service users confirmed that they manipulate alcohol to make it stronger or make their own alcohol to quench the craving in face of depleted financial resources. One service user testified: *"I mix Bond 7 with hot water such that it speeds up very fast the brain"*.

2.3.4 Societal perceptions of persons with addiction problems

Regarding the societal views on persons with alcohol addiction, respondents from both countries agreed that problem drinkers are often blamed for being weak and are seen as a shame. *“Stigmatization of addiction is common due to its association with and the location of alcohol treatment in psychiatry”* said a Belgian nurse. Most of the Belgian respondents emphasized that addiction is an inheritable, and incurable disease of the brain. A Belgian user narrated: *“Both of my grandparents are alcoholics and my father is the only child, but my mother has two brothers and one sister. One brother is misusing alcohol and the other is an alcoholic who stopped”*. The view of alcoholism as a disease was also expressed by medical professionals in Uganda. However, other Ugandan participants associated addiction with lower social class and linked it to social ‘evil’ such as crime and spread of diseases, as expressed by a service user:

“We are like social rejects. When people know that you either drink or smoke weed ... they, ... think it made you crazy. They can’t easily trust you with anything. You can’t fit into society, freely. ... Most people perceive us as criminals...They also believe that drug and alcohol abusers are the major causes of HIV”. (user, Uganda)

Another Ugandan service user emphasized similar societal judgments by explaining that most people perceive persons with addiction problems as individuals who get involved in crimes such as theft and rape.

In a nutshell, respondents from both countries associated addiction to deterioration in a person’s physical, social and emotional life and stated that addiction is associated with stigma by the society. Perspectives of Ugandan respondents differed from these of Belgian respondents as they rather emphasized spiritual and moral factors in relation to addiction, while their Belgian counterparts rather associated addiction with inheritable and disease aspects.

2.4 Discussion

Inspired by the varying conceptualizations of addiction across cultures, this study explored the perspectives of Ugandan and Belgian alcohol treatment providers and service users towards addiction and its facilitating factors in both countries. Addiction is explained by a variety of interconnected individual and societal features. Overall, wide availability of alcohol and absence of restrictions (Uganda) and affordability and insufficient coping skills in adversity (Belgium) stand out as major facilitators of alcohol addiction in the respective countries. The role of social and cultural habits, promotional activities by the alcohol industry, early exposure to alcohol, peer influence and social/economic hardship was acknowledged in both societies. While many Ugandan respondents viewed addiction as a moral or criminal issue, most of their Belgian counterparts explained it as a disease.

The similarities found in respondents' perceptions of facilitating factors for alcohol addiction mirror the description by Michie, Stralen and West (2011) of opportunity and motivational factors, but these are manifested in varying ways in the two contexts. As reported earlier by Tumwesigye (2003) and Hibell and colleagues (2012), alcohol is considered as a usual drink in both societies and is imbedded in social and cultural traditions. According to Rantala and Sulkunen (2012), addictive behaviors develop from culturally defined and regulated pleasures. Cultural norms and functions determine acceptability of alcohol and range from total abstinence over ritual consumption to use for personal pleasure and conviviality (Sulkunen, 2015). According to Rukundo, Kibanja and Steffens (2017) the alcohol industry creates a 'non-addictive and relatively harmless alcohol impression'. Consequently, perspectives of alcohol as an ordinary drink and medicine raise concerns, since epidemiologists point at alcohol as one of the major causes of the global burden of disease, disability and death in high as well as low-income countries (Babor et al., 2010).

Michie and colleagues (2011) and Surujlal and Keyser (2014) explained that behaviour is motivated by the anticipation of pleasure or satisfaction and relief from craving. The general pro-drinking culture ignites automatic motivational cues (conditioned by drives, emotions and habits) and biases reflective processes (e.g., conscious cost-benefit analysis) (Heyman, 2009; Petraitis et al.,

1995), thereby escalating use and hampering recovery from alcohol addiction. Since addiction is related to repeated association, reinforcement, and modeling (Caprara, Regalia, & Bandura, 2002; Giovazolias & Themeli, 2014), media images glamorizing alcohol and associating it with modernity and fun (Sznitman & Romer, 2014) seem to fuel AUDs in both Uganda and Belgium. Many Ugandan service users also testified to consume alcohol as a kind of self-medication to cope with psychological pain, which was recently reported by the WHO (2013).

In terms of differences in perspectives, primarily opportunities (high availability and absence of restrictions) and capabilities (affordability and lack of coping skills in case of adverse events) appear to facilitate addiction in Uganda and Belgium, respectively. Most Ugandan respondents cited external influences such as the abundant supply of highly toxic products and absence of alcohol regulation as main facilitating factors (see also Dumbili, 2014; Rukundo, Kibanja, & Steffens, 2017; WHO, 2014). On the other hand, Belgian respondents emphasized affordability (CROIC, 2011) and internal factors. Alcohol is used to boost personal confidence and relational skills (Chen & Nath, 2016; Niemz, Griffiths, & Banyard, 2005).

Differences in perspectives between both societies become clearer when respondents were asked about the conceptualization of the term ‘alcohol addiction’ in each country. Unlike Belgian respondents, several Ugandan participants mentioned religion as a key factor in alcoholism, confirming earlier studies in Africa that related mental health to spiritual, supernatural or moral forces (Odejide et al., 1992; WHO, 2013). This may not surprise, since religion plays a significant role in shaping day-to-day events in SSA countries (Lunn, 2009), and the entire Ugandan population is affiliated to one or another religion (Uganda Religion Stats, 2014). However, moralizing and criminalizing addiction may hamper the role of professional treatment and promote stigma and discrimination. On the other hand, predominance of a disease perspective among Belgian respondents has as well been reported in similar studies in Western European countries like France (Egerer, 2013), Spain (Gual et al., 2016) and Poland (Klingemann, Klingemann, & Moskalewicz, 2017). Ugandan respondents with a medical background (e.g., psychiatrists) expressed similar perspectives, which can as well be attributed to the educational curriculum in both societies. Although the conceptualization of addiction as a disease is

widespread globally, it can be criticized for placing responsibility on the individual and for its controversial incurable claims, hence stigmatizing millions of people and denting hope for full recovery (Gual et al., 2016; Klingemann et al., 2017).

2.4.1 Recommendations for policy and practice

A common understanding of aspects that are considered useful to mental health is a step towards agreeable interventions (Sweeney et al., 2015). In this study, like in previous studies by Redfield and Brodie (2002) and Holma and colleagues (2011), people with addiction problems are depicted as consuming high volumes of alcohol and experience negative social-economic consequences. These characteristics resonate well with the symptoms of AUDs as classified in the DSM-5. However, associating addiction only with severe negative consequences is likely to inhibit the detection of early problematic use that is characterized by impaired cognitive control, impulsivity, and high reward sensitivity (Iacono, Malone, & McGue, 2008).

A combination of interventions to reduce opportunities and motivational factors and to enhance resistance capabilities for alcohol use can be explored further to prevent alcohol addiction in Uganda and Belgium. Enhancement of young people's capabilities for peer resistance and increasing their stress management skills are global concerns (Rukundo, Kibanja, & Steffens, 2017).

Regarding opportunities, the strong peer influence as evident from the study findings along with the rampant availability of alcohol including occasions in and around educational institutions calls for school/college-based interventions in both societies (Suneel, 2015; Urwin & McNaney, 2015). The legal drinking age in Uganda and Belgium is 18 and 16 years respectively, but all service users started to drink long before that age indicating more attention for underage drinking concerns. Also, the enactment of protective policies is needed to restrict opportunities of alcohol production and consumption, which is expected to protect many individuals from starting to use or postponing the age of onset (Babor et al., 2010; West, 2013). Further studies are necessary to analyze the impact of cultural and spiritual beliefs on treatment programs and stigma among service users in Uganda, since culture, religion and spirituality are regarded to be strong influences

in the addiction process (Kalema, Vanderplasschen, Vindevogel, & Derluyn, 2016; Tumwesigye, 2013).

As far as motivation-based interventions are concerned, several respondents associated alcohol addiction with emotional distress (Rukundo, Kibanja & Steffens, 2017), which argues for measures to protect young people against extreme socio-economic pressures and offering alternative resources to complement the traditional psychosocial/recreational support (Heyman, 2009). Also, engaging people in meaningful economic activities may reduce their motivation towards alcohol use. In Belgium, measures regarding price control can be explored for demand reduction strategies, given its ability to protect vulnerable populations from alcohol (ab)use and to decrease underage drinking.

To mitigate the stigma and other limitations of the disease model, more research is needed on management of treatment so as to respond to users' unique needs, (Fraser, 2016; Iacono, Malone, & McGue, 2008), while paying attention to emerging intermediate positions that see addiction as a societal problem (Kalema, Vanderplasschen, Vindevogel, Derluyn, & Baguma, 2017; Klingemann, Klingemann, & Moskalewicz, 2017). Manipulating alcoholic beverages or making own alcohol is a central feature of alcohol misuse in Uganda and can be considered one of the core characteristics of AUD upon treatment entry.

2.4.2 Limitations of the study

Although this is a paper on a cross-cultural study, referencing is biased towards literature from high-income countries given its wider prevalence, while literature from low-income countries is scanty. The study sample was limited to four residential treatment facilities, excluding outpatient and other community-based services with other treatment philosophies. As only 20 (highly educated) service users were interviewed, the range of perspectives and experiences among service users was limited. Socio-demographic differences can account for the disparity in views of respondents from the two countries. Moreover, variations noted in this study could reflect policies, media representations and institutional traditions, and not necessarily societal views. Finally, the fact that respondents were selected by the management of the participating facilities and did not answer the interview questions in their native language to an external interviewer,

may have caused socially desirable answers and missing of useful information. Yet, all interviews were administered in separate rooms and confidentiality was assured to all respondents. It is recommended to include a more diverse sample in future studies, since no female users from Uganda nor users from lower socio-economic classes were included in this study.

2.4.3 Conclusion

While Belgian respondents regarded alcohol addiction as a disease facilitated by capability-related factors, Ugandan participants rather attributed it to motivational aspects and associated addiction with moral breakdown. Respondents from both countries emphasized repeatedly the role of available opportunities to access alcohol and associated AUD with excessive use and negative alcohol-related consequences. The aspect of manipulating and manufacturing own alcohol was unique to the Ugandan context. Based on this study, interventions in Uganda could explore possibilities for strengthening regulation and utilization of well-established and highly influential religious and cultural institutions to reduce access to alcohol. In Belgium, human development approaches such as life and social skills training programs seem necessary to further prevent and delay the onset of AUD. In both societies, awareness raising, early intervention, programs for children and adolescents and alcohol regulation in educational institutions are essential components for the prevention of addiction. Ultimately, more cross-cultural research is necessary on the implications of addiction perspectives on treatment and recovery opportunities in high- and low-income societies.

TREATMENT CHALLENGES FOR ALCOHOL
SERVICE USERS IN KAMPALA, UGANDA³**Abstract**

Background and aims: Enhancing treatment participation of persons with AUDs is a challenge worldwide. Obstacles keeping people from entering or continuing treatment are well documented in Western countries, but such knowledge is scarce in majority countries that face particular challenges when implementing alcohol policies. This study aimed at identifying factors challenging treatment participation in Uganda, a Sub-Saharan country with a considerable alcohol problem.

Methods: Data were collected during 30 in-depth, qualitative interviews on treatment challenges with 20 service providers and 10 male service users. Respondents were recruited at one public and one private alcohol treatment center in the Ugandan capital city, Kampala. Men comprise about 90% of the total number of service users in these centers. Interview data were analyzed thematically, using NVivo software, and were categorized around three levels of treatment challenges: societal, institutional, and personal challenges.

Findings: Interview findings showed several treatment challenges relating to institutional aspects like inadequate human resources, overall insufficiency of services, and the treatment philosophy of available services. Respondents identified stigma and cultural interference as important challenges at societal level, while limited awareness about addiction and denial of problems can be situated at the individual level.

Conclusions: Institutional, societal, and personal challenges keep persons with AUD from participating in alcohol treatment in public and private services in Uganda. Alcohol regulation, sensitization, and prevention are needed to raise awareness at societal and individual level, while appropriate training and additional financial resources may help to overcome institutional challenges.

Key words: *Alcohol abuse; addiction; treatment barriers; Sub-Saharan Africa; Uganda; qualitative research*

³ This chapter is based on: Kalema, D., Vanderplasschen, W., Vindevogel, S., Baguma, P., & Derluyn, I. (2017). Treatment challenges for alcohol service users in Kampala, Uganda. *International Journal of Alcohol and Drug Research*, 6(1), 27-35.

3.1 Introduction

AUDs are a growing public health concern in SSA. In Uganda, high per capita alcohol consumption, heavy episodic drinking, and underage alcohol use are well documented (Swahn, Palmier, & Kasirye, 2013; WHO, 2014). Based on a recent international comparison (Graham et al., 2011), the negative personal and social consequences among drinkers were estimated to be among the highest globally and call for effective interventions (WHO, 2010). Literature on alcohol treatment in Uganda is scarce (Kalema, Vindevogel, Baguma, Derluyn, & Vanderplasschen, 2015), but indicates that the majority of problem users fail to access professional treatment (Kullgren, Alibusa, & Birabwa-Oketcho, 2009; MoH, 2010). Although low treatment access and participation is recognized as a problem worldwide (Rehm, Shield, Rehm, Gmel, & Frick, 2012), some of the challenges may be specific to developing countries due to contextual differences like political and economic instability, the influence of the alcohol industry, and the role of religion in daily life (Al-Ansari, Thow, Day, & Conigrave, 2015; Kalema, Vanderplasschen, Vindevogel, & Derluyn, 2016). Consequently, identification of obstacles that interfere with service and treatment utilization in these countries may help to improve treatment participation and quality of service provision.

Based on the WHO STEPwise approach to surveillance of non-communicable diseases, the proportion of Ugandans with an AUD was estimated at 9.8% (3,920,000 people) in 2014 (Kabwama et al., 2016). Hospital-based studies indicate higher prevalence rates among HIV/AIDS patients (47%) and persons entering primary health care centers (17%) (Hahn et al., 2014; Kullgren et al., 2009). According to the WHO (2010), treatment is an essential recommended intervention for reducing AUD, but it is relatively new and rare in Uganda and scantily documented (Ndyanabangi, 2013). Mainstream health care facilities are the official first contact points for persons with AUD, but these services do not provide more than detoxification (MoH, 2010). Spiritual, traditional, and other forms of informal healing are significant features of mental health care in SSA, but remain largely unknown to the scientific community (Odejide, Oheri, Adelekan, & Ikuesan, 1992).

Uganda has one specialized public AUD treatment facility at the National Referral Hospital in Kampala and eight private, small-scale non-governmental organizations around the capital city that offer specialized residential treatment lasting 90 days. Treatment in these facilities is based on the traditional Minnesota model (Kalema & Vanderplasschen, 2015), which regards chemical

addiction as a chronic and progressive disease and emphasizes abstinence from all mood-altering substances to achieve recovery. It consists of a combination of the Alcoholics Anonymous 12-step program and pharmacological and psychosocial interventions (National Institute on Drug Abuse [NIDA], 2000). Some authors (Klingemann & Bergmark, 2006) have questioned the appropriateness of the Minnesota model as a primary treatment solution for AUD in resource-limited settings. This is likely to be compounded by stigma, as the model is based on self-revelation (Salwan & Katz, 2014). Moreover, it is unclear whether late adjustments to address the limitations of the Minnesota model (NIDA, 2000) have been adopted in Uganda. Also, aftercare following residential treatment is only provided occasionally.

According to the Ugandan Bureau of Statistics (UBOS), 49% of Uganda's population is younger than 15 years of age (UBOS, 2014) and can hence be regarded as the second youngest and one of the fastest-growing populations worldwide. This exceptional demographic situation, in combination with a high burden of disease and low per capita income (World Bank, 2015), limits the prioritization of mental health care in the public sector (Kigozi et al., 2010). Private services are expensive and hence unaffordable for the general population. Access to treatment is further hampered by the fact that alcohol services are concentrated in urban areas around Kampala (Ndyabangi, 2013), while the majority of people with AUD live in rural areas (MoH, 2014). Paradoxically, service providers are suspicious of spiritual treatment and other types of informal support (Barker & Hunt, 2007), although these culturally based initiatives are easily accessible, trusted by the general population, and cheaper than institutionalized health care facilities (Odejide et al., 1992). Consequently, large shortages are experienced in alcohol service delivery, and available resources are subject to severe pressure. For example, in the only public psychiatric hospital, only two beds and one staff member are available per 100,000 inhabitants (Kigozi et al., 2010). Further, available facilities suffer from culturally and/or religiously induced stigma, which reduce acceptability of these services (Massachusetts General Hospital, 2015). Moreover, although English is considered the official national language, 43 different languages are currently in use in Uganda, which can make communication challenging, in particular with less educated and illiterate persons (22% of the population) (Ethnologue, 2017). Some recent publications (Kigozi et al., 2010; Ndyabangi, Basangwa, Lutaakome, & Mubiru, 2009) have revealed

challenges and prospects for mental health care in Uganda and called for research on the functioning of mental health services to guide future reforms.

Factors that have been associated with poor treatment access and participation among persons with AUD and other SUDs in the international literature include personal challenges (e.g., negative social support, unaffordability, privacy and time concerns, shame, stigma, and denial), as well as system challenges (e.g., lack of expertise, limited availability, intake procedures and requirements) (Fin, Bakshi, & Andréasson, 2014; Myers, Louw, & Fakier, 2008; Myers, Petersen, Kader, & Parry, 2012; Pasche, Kleintjes, Wilson, Stein, & Myers, 2015; Rapp et al., 2006). Identified obstacles appear to be similar across countries and cultures, although their magnitude may differ according to place and population. For example, in a U.S. study Schuler, Oheri, Adelekan, and Ikuesan (2015) highlighted attitudinal aspects (i.e., readiness to change) as a main obstacle to treatment in general, while Browne and colleagues (2016) reported primarily service-related challenges in rural areas (e.g., transportation costs, absence of technology). Although research on this issue is rare in Africa, Myers and colleagues (2012) mentioned awareness of treatment options, geographic access, and affordability as major facilitators to alcohol and other drug treatment among Black Africans and Colored South Africans. Societal stigma is a recurring barrier in most treatment access studies, which has a significant impact on the acceptability of services and motivation for treatment (Ebigbo, Elekwachi, & Nweze, 2012; Keyes et al., 2010; Saunders, Zygowicz, & D'Angelo, 2006).

3.1.1 Aims of the study

Research on alcohol-related disorders in Uganda is limited and treatment issues have barely been studied (Kalema & Vanderplasschen, 2015). Also, most studies focus on public facilities, while 46% of all health services in Uganda are provided by private, non-governmental organizations (U.S. Agency for International Development [USAID], 2005). Since alcoholism is considered a unique disorder requiring a specialized approach (Sterling, Chi, & Hinman, 2000), we attempt to fill the knowledge gap on alcohol treatment in Uganda by studying treatment challenges for persons with AUD as perceived by service users and providers in private and public services. By doing so, these

findings may help to improve the accessibility and quality of alcohol services in Uganda and other SSA countries.

3.2 Methods

To explore facilitating and impeding factors associated with AUD treatment in Uganda, we used a qualitative study design. Qualitative research was used because this method makes it possible to explore individuals' diverse experiences with treatment and their subjective perspectives of treatment (Lucassen & Olde Harteman, 2007).

3.2.1 Study sample

A total of 30 participants was chosen purposefully from two AUD treatment facilities in Kampala, Uganda. One site was selected because it is the only public specialized facility, while the other was a typical private center (small-scale and non-profit, but in which clients have to pay for services). The public facility is a 25-bed unit/ward at the National Referral Hospital, while the private center has a bed capacity of 15 clients. Both facilities offer similar programs (as explained in the introduction) and will be referred to as site 1 and site 2 respectively, while presenting the results.

From each center we interviewed 10 service providers and 5 service users in the period of October–November 2014. Based on the eligibility criteria, the administrators of both programs selected respondents. Service providers were key therapeutic staff and an administrator, all directly charged with treatment of AUD clients. Eligible service users were those diagnosed with alcohol dependence, in residential treatment for at least two months, and with a stable psychological and physical state at the time of the interview. We included service users because they are the primary beneficiaries of treatment and their experiences are crucial in evaluating alcohol services. A greater number of service providers was selected to represent the multidisciplinary composition of the treatment staff. Also, respondents had to speak English.

The average age of interviewed treatment providers was 35 years; 13 were male and 7 were female. Their professional backgrounds varied: 13 were allied health professionals (2 psychologists, 8 counselors, and 3 social workers), 2 psychiatric nurses, 2 general nurses, 2 psychiatric clinical officers, and 1 psychiatrist. They had been working in AUD treatment for, on

average, 5 years. All service users were men, and their mean age was 29 years. Half of them were students in higher education (four at university and one in high school), and the other five respondents were university graduates who reported that they were unemployed prior to admission. Although the sample is too small to represent characteristics of males in treatment, the overrepresentation of highly educated alcohol users depicts an affluent group that can afford treatment. Also, the high number of school-going respondents may not be a surprise, given the young average age of the population (UBOS, 2014) and high prevalence of teenage drinking (Kafuko & Bukuluki, 2008; Swahn, Haberlen, & Palmier, 2014). Service users reported to have been drinking for 13 years on average, and all were in treatment for the first time. Only male respondents were selected for this study, since the number of female service users is very low (around 1:10) and none was eligible/willing to participate at the time of study selection.

3.2.2 Data collection

Data were collected using in-depth interviews consisting of open-ended questions that lasted 45 to 90 minutes and were administered at the respective treatment facilities. Interviews focused on difficulties experienced by alcohol users in seeking and staying in treatment, their level of satisfaction with the services offered, causes of drop-out and relapse, and the general population's attitude towards alcohol users and services (see Figure 3.1). No incentives were provided for study participation. The study was approved by the Ugandan National Council of Science and Technology and by the ethical boards of the two supervising universities. To ensure independence of the interviewer, interviews were conducted by a Belgian final-year master's student in special needs education. Informed consent was obtained from all study participants, and with their permission, interviews were recorded with an audio device. Although the interviews were conducted in English, respondents were allowed to express themselves in their local language whenever necessary.

3.2.3 Data analysis

Interviews were transcribed verbatim. Collected data were structured using thematic analysis (Braun & Clarke, 2006) and analyzed with NVivo 11 computer software. While analyzing the interviews, emerging themes were clustered around three types of factors: societal, institutional, and personal factors (see Figure 3.1). The three levels were created inductively and emerged as categories of challenges, while the nodes should be regarded as themes and subtypes. To strengthen the reliability and validity of the study findings, the results were discussed by some of the authors and staff members from research site 2.

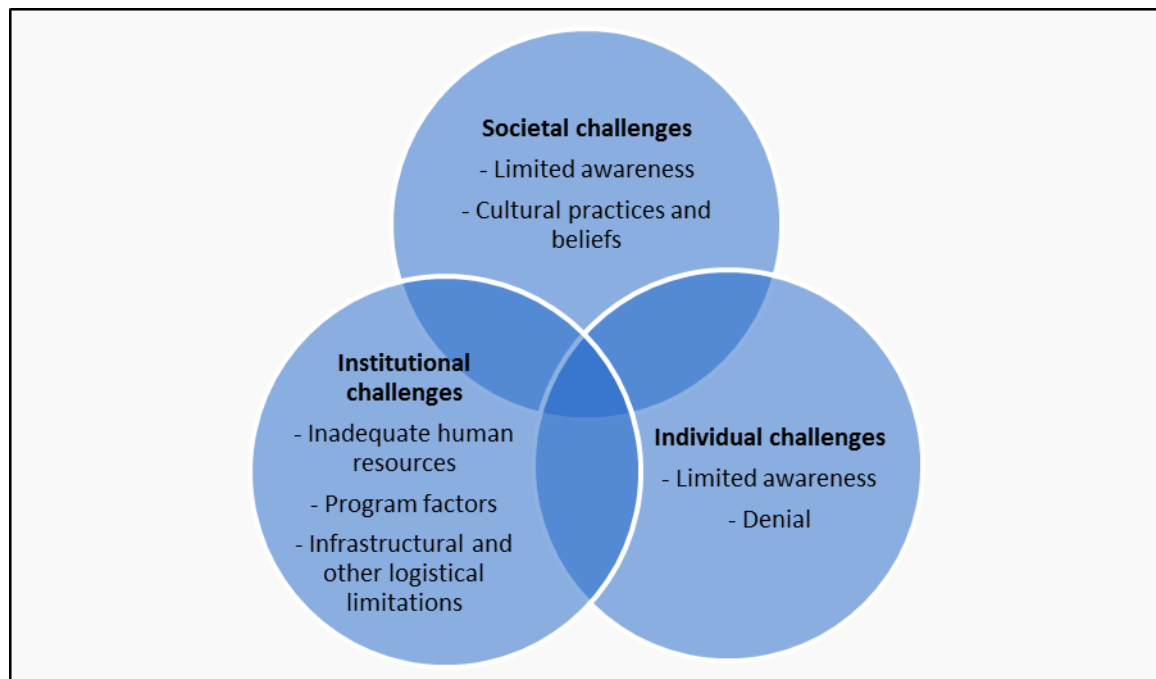


Figure 3.1. Identified clusters of treatment challenges for persons with AUDs in rehabilitation centres in Kampala, Uganda

3.3 Results

Responses revealed closely interconnected facilitating and impeding factors, ranging from negative societal attitudes to institutional/service-based limitations and personal challenges (see Figure 3.1). Selected quotes are used to illustrate each theme. As shown in Figure 3.1, responses on societal factors were clustered around following themes: awareness, cultural aspects, and availability of alcohol. Themes at the institutional level included human resources, quality of services, treatment options, intake capacity, and costs. Low motivation (limited awareness and denial) was coded under individual characteristics.

3.3.1 Societal challenges

Limited awareness: Numerous respondents cited exposure to alcohol at young age and widespread public drunkenness as common societal features of alcohol abuse in Uganda, but awareness among the general population is restricted. Limited awareness can be regarded a societal as well as an individual challenge. Several respondents stated that many persons with AUD do not know that alcoholism is a treatable disorder, nor where to access services: *“Those who know it [treatment] think that it doesn’t work at all. Most of them mock us. They think, ah, we are wasting time . . . and money,”* stated a service user at site 2. Service users and providers at both sites reported several myths that still prevail in the population, such as *“you can’t be an addict and successful in life”* or *“treatment is for those who are badly off.”* The view that *“alcoholism is suffered by those who are mentally ill”* is also common and combined by the fact that public AUD treatment is provided in mental health care units promotes stigma. Yet others think that alcoholism is curable with herbs or medicines and see no need for professional treatment. Societal lack of trust in treatment is aggravated by the perceived high relapse rates after treatment.

Cultural practices and beliefs: Respondents blamed the dominant culture for the wide availability and acceptability of alcohol, which in itself promotes heavy drinking and relapse among (treated) individuals. Some tribes believe that *“alcoholism is bewitched”* and insinuate – along with some religious groups – that *“alcohol abuse is a curse and requires exorcism instead of treatment.”* On top of condoning alcohol, intercultural issues may interfere with treatment, as service providers reported communication difficulties with non-English speaking users from different tribes.

3.3.2 Institutional/service-based challenges

Inadequate human resources: Service providers reported repeatedly about the heavy workload, which is a serious threat to the quality of service delivery. To address this problem, volunteers and interns are recruited as additional workforce, which may raise concerns regarding their competence and motivation.

“If . . . they want to go, they go. . . . After we trained people, they disappeared. The student psychologists are temporal, so if it is not yet time for that course, then you are not going to see them. That is why you are going to find that we are seasonal. There are seasons when it is good and when it is really bad”. (psychologist, site 1)

Also, some respondents admitted that staff members lack essential knowledge for the management of AUD.

“We actually don’t understand what addiction is. Sometimes, you can even ask some doctors these things and they don’t know”. (social worker, site 1)

Program factors: Service users, especially from site 1, complained about congestions in the therapeutic sessions and monotony of the topics presented. Service providers attributed this to staff shortage: *“At times we resort to a ‘one shoe [size] fits all’-approach. I don’t want it as well,”* said a psychologist at site 1. The program leanness is compounded by lack of therapeutic materials such as literature and other visual/learning tools at both sites, hence limiting the ability of users to facilitate their own recovery processes. Moreover, insufficient recreational and therapeutic options are reported at both sites, as illustrated by this statement of a clinical psychiatric officer at site 2: *“No Antabuse [is available], we are just on detoxification. For other [treatment] models, we only stop at reading about them, but we cannot practice because we have to go by what is available. For example, we lack an occupational center.”* Finally, the treatment program lasts 90 days, but this period is considered too long by service users as it affects their work, study, and family commitments. *“My studies . . . [are] something . . . crucial in my life, so when someone tells me: ‘get a dead year, first work on yourself, and then go back to school,’ it was a setback”*, stressed a user at site 1.

Infrastructural and other logistic limitations: The bed capacity at site 1 is reportedly low compared to the demand. Hence, many users have to be on a waiting list long before admission. Although offering paid services, private treatment is as well limited in capacity and cannot absorb all persons who cannot be treated in public facilities. One counselor (site 2) explained: *“When you look at the resources, accommodation, and even the meals, it’s too expensive for these people. There is no support by the government.”* To create space, treatment norms and expectations are moderated, and in most cases all types of clients are treated together, including persons with severe psychiatric disorders. This challenge was mentioned more frequently at site 1, but was also acknowledged at site 2. A counselor from site 2 stressed some negative consequences of this lack of differentiation: *“When some are psychotic... they are aggressive, resentful, and are in denial. They become violent and vandalize property, it becomes a very stressing environment for both the clients and staff.”*

3.3.3 Individual challenges

As mentioned above, limited awareness is a societal as well as an individual challenge. Societal stigma reinforces denial and resistance towards residential treatment among persons with AUD. Not surprisingly, the majority of admissions are involuntary, those who have been tricked into treatment or only agreed to treatment after extensive persuasion.

“Clients also have a challenge, because it is not their motivation. Many times, those are the people you talk to and they always try to fake the recovery – ‘You see, I am now okay, I sleep, I understand the problem, now; when am I going?’” (psychologist, site 1)

A counselor at site 2 reported that the majority of users are resentful of the program and fail to cooperate. Also, some residents try to sneak alcohol or other drugs in the treatment center and eventually escape, which demotivates other service users and frustrates the staff.

3.4 Discussion

Based on 30 qualitative interviews with service providers and users at two treatment centers in the capital city of Kampala, we identified perceived challenges for persons with AUD in Uganda related to individual, institutional, and societal aspects of seeking and receiving treatment. As noted earlier in this paper, some challenges occur at more than one level (Rapp et al., 2006; Schuler et al., 2015). According to the interviewees, Uganda's case is characterized by positive societal attitudes toward alcohol and negative beliefs about treatment, limited human and infrastructural resources, poor quality of service delivery, and individual resistance to treatment. It is noteworthy that the service user sample consisted of highly educated individuals, illustrating that treatment is primarily accessible to affluent citizens (Schuler et al., 2015).

The wide availability of alcohol in Ugandan society and its consideration as an ordinary drink (Swahn et al., 2013; WHO, 2010) were repeatedly mentioned by service providers and users as major societal challenges to treatment access and retention. Over the past two decades, SSA has witnessed a rapid increase in the availability and affordability of alcohol, primarily as a result of the alcohol industry's attempts to open new markets for their products (Jernigan & Obot, 2006; Kalema et al., 2016; Willis, 2006). This specific context, combined with ignorance about alcohol addiction and its treatment, as well as persistent societal challenges such as poverty, infectious diseases (e.g., HIV), and internal conflicts, prevents people not only from seeking treatment but also from staying in treatment. In the absence of effective alcohol regulations, prevention, and sensitization initiatives (Kalema & Vanderplasschen, 2015), problem awareness is limited.

Addressing alcohol problems is further complicated by cultural and traditional beliefs. Research participants indicated that formal alcohol treatment services and spiritual and traditional healers appear to be two distinct support systems that can be considered opposing rather than cooperating factors. The conceptualization of alcoholism as an *"incurable disease"* by the predominant Minnesota model is an institutional approach which appears to be inconsistent with the local culture, as numerous people believe that persistent illness is due to improper treatment or evil influence. Some spiritual testimonies have claimed to provide total healing from alcoholism (Odejide et al., 1992), which may explain the popularity of traditional and spiritual healers.

Evaluation studies are needed as well regarding the effectiveness of Minnesota-based and other formal treatment modalities compared to traditional and spiritual healers.

Most challenges that were cited by service providers and users concerned agency functioning and availability. While the only public alcohol treatment clinic is overwhelmed by the high demand from the population, private initiatives lack adequate resources to avail their services to all persons who are unable to access inexpensive public services. This finding is consistent with previous studies in the Sub-Saharan region that showed a great shortage of public mental health care facilities (Myers et al., 2012). The interviews further revealed that service provision is compromised by the sector's inability to attract and retain skilled staff, as has been found for the mental health sector in Uganda (Kigozi et al., 2010).

Ugandan service providers identified denial as a major individual barrier to treatment access, while other authors (Schuler et al., 2015) have also pointed at psychiatric comorbidity, insufficient financial resources, and stigma as main barriers. Denial and resistance are regarded as inherent aspects of addiction and behavioral change processes (e.g., Cunningham, Blomqvist, & Cordingley, 2007; Rinn, Desai, Rosenblatt, & Gastfriend, 2002), but low motivation and poor treatment adherence are equally typical for other chronic disorders (e.g., diabetes, hypertension) (McLellan, 2002). Consequently, making treatment more attractive to potential users and providing motivational, low threshold, and continuing interventions are important challenges for alcohol services in Uganda.

Low treatment utilization among women is a particular feature of Ugandan alcohol treatment, which was illustrated by the lack of female participants in this study and a 10:1 male-to-female ratio in alcohol services overall. In other African countries, this low representation has been attributed to cultural taboo and stigma, particularly among women who are unemployed, impoverished, and/or uneducated (Ebigbo et al., 2012; Myers, 2011). Moreover, as illustrated by the high educational status of most study participants, services are generally unable to attract people with low educational attainment and low income, despite 24% of the Ugandan population living below the poverty line (Ebigbo et al., 2012; Population Secretariat & United Nations Population Fund (UNFPA), 2012).

Given the multidimensional nature of the identified challenges to treatment participation and the fact that most respondents associated the perceived failure of treatment services to the increased availability of alcohol, insufficient human and infrastructural resources, and the poor quality of services, measures at the societal and institutional level are needed. Comprehensive alcohol policy regulations (Babor et al., 2010) and adequate sensitization and prevention strategies (Kalema & Vanderplasschen, 2015) are likely to increase awareness at the population level. Moreover, such measures may contribute to the development of an intervention spectrum from primary prevention to long-term treatment (Mrazek & Haggerty, 1994).

Second, considering the role played by both private and public services in alcohol treatment in Uganda (USAID, 2005), better collaboration between both sectors could increase available resources and enhance systematic planning of AUD interventions at various levels (Center for Substance Abuse Treatment, 2000; Pedersen et al., 2015). For example, this could be done by pooling staff and resources, by providing common training and supervision sessions, or by shared decision making. Public–private collaboration was also a key recommendation by the Ugandan Population Secretariat & UNFPA (2012), since such partnerships enhance service delivery and complement each other in situations of scarce resources. Collaboration and networking are also emphasized in Uganda’s Mental Health Care Plan as key ingredients for more effective mental health services (Ndyanabangi, 2013).

Third, since research participants from both facilities complained about limited capacity of available services, additional and affordable treatment slots need to be made available. Also, the predominant medical-psychiatric approach should be complemented with more comprehensive approaches and community-based practices that support persons with AUD in their natural environments. Challenges regarding staff expertise and competence were described by respondents and could be improved by recruiting more allied health workers (e.g., social workers, psychologists) in specialized services and by providing specialist training to primary health care workers (e.g., counseling and support skills, motivational interventions) (WHO, 2010).

Finally, to remove societal barriers and address the limited English language proficiency for uneducated or minimally educated alcohol users, educational and therapeutic programs in local

languages could increase awareness and reduce stigma and denial among individuals and communities.

3.4.1 Limitations

As research on alcohol treatment in Uganda is still in its infancy, several limitations should be noted. First, the study sample was limited to two residential treatment centers, excluding other services or stakeholders that apply different treatment philosophies from the Minnesota model. Also, since only 10 (male) service users were interviewed, the range of perspectives and experiences is small. For example, our sample of affluent and highly educated individuals is likely to leave out opinions of service users with lower/no educational attainment. It is recommended to include a more diverse sample in future research, including women and service users from lower socio-economic status groups. Moreover, involving persons who dropped out of treatment or who were awaiting treatment and/or did not seek treatment at all would provide complementary perspectives regarding treatment challenges. Finally, all respondents were selected by the administrators of both programs, which may have led to a selection bias as they could choose to select individuals who were most eloquent or those likely to report positively about treatment and service provision in Uganda. However, all interviews were administered in a separate room and confidentiality was assured to all respondents.

3.4.2 Conclusion

Challenges and difficulties in the delivery of alcohol treatment in Uganda are attributed by service providers and service users to a combination of societal, institutional, and individual factors. Reforms at various levels are necessary to provide more effective treatment services and to attract and engage a wider range of persons with AUD. In particular, the quality of service delivery should be improved through training and additional human and infrastructural resources. Also, alcohol treatment should be extended to include outpatient and outreach activities, while alcohol regulation, education, and prevention programs are needed to increase awareness about addiction and reduce related stigmatization.

CORRELATES OF MOTIVATION FOR TREATMENT AMONG ALCOHOL SERVICE USERS IN UGANDA

Abstract

Purpose: Given the scarce literature on AUDs and their treatment in developing countries, this study explores motivation levels and their correlates among alcohol service users in two treatment centres in Kampala, Uganda. We study how motivation levels of Ugandan alcohol service users compares with that from American studies; and the specific factors affecting internal and external motivation in the Ugandan context.

Methods: Motivation for treatment was measured among 100 individuals entering AUD treatment using the Texas Christian University (TCU) Treatment needs and Motivation scale. The WHOQoL–BREF, Addiction Severity Index–6 and Hopkins Symptoms Check List–37 for Adolescents were used to measure addiction severity, QoL, and psychopathology, respectively. Correlates of motivation were identified using linear regression analyses.

Results: Ugandan service users demonstrated low treatment motivation on treatment needs domain. While addiction severity (recent heavy alcohol use) and private treatment were associated with higher internal and external motivation, deterioration in physical and environmental QoL, depressive symptoms and lower education linked with higher internal motivation. Exposure to prior treatment, partner support and recent heavy use are the addiction severity items that exclusively correlated with higher internal motivation.

Conclusion: Different elements affect various TCU motivational domains. Hence, it is necessary to pay attention to clients' unique needs as influenced by their background, addiction severity, QoL, psychopathology and the treatment setting. Further studies are needed to explore complimentary factors of motivation for treatment among alcohol service users in Uganda and highlight the longitudinal impact of motivation and its correlates on treatment outcomes.

Keywords: *Motivation; Quality of Life; psychological wellbeing; addiction severity; alcohol; Uganda*

4.1 Introduction

Motivation for treatment is considered an essential factor in addiction treatment as it is associated with treatment initiation, engagement and retention and is likely to contribute to desirable behaviour changes (Adamson, Sellman, & Frampton, 2008; Bilic et al., 2014; Groshkova, 2009). Commonly described as *“a probability of a person’s will to enter, continue, and adhere to a specific change strategy”* (Groshkova, 2009, p. 495), motivation reflects the *“desire to change that arises from within the individual and the perceived outside pressure or coercion to change”* (De Leon, Melnick, & Tims, 2001, p. 145). Although motivation has been extensively studied, clinicians are challenged in understanding and explaining motivational dynamics given the multiplicity of factors influencing change-related decisions and behaviours and the diversity in substance using populations (Groshkova, 2009). Yet, the conditions affecting treatment motivation in AUDs need to be further clarified (Cengiz, Deveci, & Yapici, 2015), in particular in non-Western societies as cultural differences may require differential therapeutic management.

Uganda is a SSA country with a high alcohol-related burden (Graham et al., 2011). Emerging alcohol treatment programs are challenged by negative societal beliefs regarding treatment effectiveness, resistance among persons with AUDs and lack of empirical data on alcohol treatment (Kalema, Vindevogel, Baguma, Derluyn, & Vanderplasschen, 2017). Building on early conceptual perspectives (De Leon et al., 2001; Simpson & Joe, 1993), this chapter analyses treatment motivation dimensions and their correlates among Ugandan alcohol service users to provide insights on context sensitive recommendations for identifying and addressing denial and poor motivation for treatment in low income countries with similar features.

4.1.1 Motivation and the Texas Christian University (TCU) treatment process model

The TCU treatment process literature highlights the importance of individual (internal) as well as environmental (external) motivation (Simpson & Joe, 1993). Internal motivation can be operationalised as ‘self-control’ and ‘reinforcement’ (e.g., acknowledgement of the negative physical and psychosocial consequences of drug use) (De Leon et al., 2001). In the TCU manual, internal motivation for treatment is situated along a continuum from ‘problem recognition’ over ‘desire for help’ to ‘treatment readiness’. ‘Problem recognition’ is characterised by the individual’s

realisation that his/her substance use is causing personal and social problems. Lack of such recognition has often been defined as 'denial' and found to be an important obstacle in the treatment process. Once problems related to substance abuse are acknowledged, the client develops desire for help (Joe, Broome, Rowan-Szal, & Simpson, 2002; Simpson 1994). 'Desire for help' represents the cognitive state of an expressed need for help to resolve the problem. Although substance users may be motivated to end their substance use and perceive a clear need for treatment to support change, they may still not be ready for treatment (De Leon & Jainchill, 1986). For example, they may feel that there are too many responsibilities to be in treatment, or they may not be ready to commit to long-term treatment (Simpson, 1994). Ultimately, 'treatment readiness' refers to individuals getting cognitively prepared for viewing and accepting treatment as the best way forward to recovery, as well as a stepping stone to actual engagement with a treatment programme (Groshkova, 2009). According to the TCU treatment process literature, also clients' treatment needs (such as acknowledgement of the necessity for medical, emotional and educational/vocational services) are significant for individuals' motivation and long-term recovery. Recognition of substance use problems and decisions to enter, stay or leave treatment may also be a result of external pressures stemming from loss or fear and can be regarded as external influences. External motivation is described in the TCU model by the 'pressure for treatment' domain. Examples of external motivators include treatment environment, legal, family, employment and health-related pressures (De Leon et al., 2001), which all have a significant impact on treatment outcomes (Bilic et al., 2014; Cornelius, Earnshaw, Meninoc, Bogart, & Levyd, 2017; Wu, Slesnick, & Zhang, 2017). According to Groshkova (2009), additional research is needed on external pressures since findings on these parameters (such as contingency interventions, legal, family and employment issues) have so far yielded inconsistent results regarding their contribution to behaviour change.

The overwhelming evidence in relation to the TCU model of motivational enhancement and change needs replication in settings outside the United States (Simpson, 2004). Indicative findings regarding motivation scores can be drawn from the TCU Motivation for Treatment-manual based on US samples (TCU Institute of Behavioral Research, 2005), but comparisons with samples from other cultural backgrounds and countries are missing.

4.1.2 Motivation for treatment among people with AUD

AUDs are among the mental disorders with the lowest treatment rate worldwide, with only 10% or less of the people fulfilling the diagnostic criteria that actually receive treatment in high income countries (Probst, Manthey, Martinez, & Rehm, 2015). This 'treatment gap' may even be bigger in low-income countries due to limited availability of treatment services and lack of prevention and sensitization campaigns. Denial, resistance, and poor treatment engagement are major individual barriers to treatment that can be addressed by motivational interventions (Joe, Broome, Rowan-Szal, & Simpson, 2002; Velasquez, Crouch, von Sternberg, & Grosdanis, 2000). Understanding and properly incorporating the concepts of 'motivation' and 'readiness' into treatment is likely to enable treatment services to address the diverse needs of persons seeking treatment. Lack of motivation for change has been attributed to client characteristics such as personality traits, resistance, and overuse of defence mechanisms (Miller, 1985). Other determinants of motivation among substance using populations include addiction severity, psychopathology and poor QoL (Cengiz, Deveci, & Yapici, 2015; Velasquez et al., 2000). It remains unclear to what extent determinants of motivation are generic and universal, as well as what is their specific role in internal and external motivation processes (Groshkova, 2009; Joe et al., 2002). By studying motivation for treatment and its possible correlates among alcohol service users in Uganda, we aim to understand motivational processes and to enhance motivational practices and interventions in developing countries and beyond.

Despite the high prevalence of alcohol misuse in SSA, a knowledge gap is observed regarding individuals motivation for treatment, as we did not find any study relating to this topic. Elsewhere, studies have focused on the association between addiction severity and motivation for treatment, leading to inconclusive results. For instance, Velasquez and colleagues' research (2000) on homeless alcohol and drug using individuals in an urban shelter program found that the motivation levels of the majority of the respondents could be situated at the pre-contemplation or contemplation level, illustrating the low risk perception among this population otherwise known as high end users. However, in a clinical sample, Probst and colleagues (2015) demonstrated declining tendencies of denial with increase in AUD problems, but noted that this is relationship may be discontinued in severe cases of addiction. Impaired social functioning is an important

feature of addiction severity. One of the recent theories that addresses motivation and behavior change considering the role of the social environment is the Self-Determination Theory (SDT) (Cornelius et al., 2017; Deci & Ryan, 2000). SDT points out relatedness (the experience of having satisfying and supportive relationships) as one of the critical factors through which people regulate and sustain behaviors conducive to their health and wellbeing (Sheldon et al., 2003). Consequently, supporting clients' need for relatedness is critical for facilitating motivation. Although SDT is important in evaluating the relationship between social support and motivation, further research is necessary about its application in alcohol using populations (Cornelius et al., 2017).

Scant empirical research in adult clinical samples indicates that QoL is positively related with hope, which is – in turn – important to increase levels of motivation and treatment engagement (Gudjonsson, Savona, Green, & Terry, 2011; Klag, Creed, & O'Callaghan, 2010). Although QoL is becoming increasingly important in treatment process and outcome studies in mental health and addiction research (De Maeyer, Vanderplasschen, & Broekaert, 2008), this concept has only been studied to a limited extent in Uganda (e.g., Nyanzi, Wamala, & Atuhairu, 2014; Renzaho, Kamara, & Kamanga, 2016; Sims-Williams et al., 2017), but not among alcohol service users. Various studies on QoL among alcohol using populations can be identified globally (e.g., Foster, Peters, & Kind, 2002; Peters & Marshall, 2000; Smith & Larson, 2003), but none of these looked at treatment motivation. Allegri, Russo, Roggi, and Cena (2008) have associated lower QoL to stronger motivation for treatment among individuals with the obesity and overweight, but its role in relation to motivation is largely unexplored among alcohol using populations.

Mental health has been associated with levels of motivation for change in alcohol service users (Barnett et al., 2002). Mood disorders, in particular depression and anxiety, are the most common psychological symptoms among substance using populations and leading causes of disability worldwide (WHO, 2017). Although research has shown that psychiatric comorbidity is usually associated with poor treatment outcomes, findings on the effects of concurrent depression and alcohol dependence on motivation for treatment are inconsistent. Cengiz, Deveci and Yapici (2015) reported high treatment motivation in alcohol dependent men with high depression scores and lower recent drinking frequencies among male and female clients with major depression. On

the other hand, Driessen and colleagues (2001) associated depressive symptomatology with lower motivation for treatment in alcohol users. An older study by Rounsaville and colleagues (1987) related depression with poorer treatment outcomes in alcohol dependent men, but with better outcomes in women in terms of drinking frequency. Yet, some recent studies (e.g., Bilic et al., 2014; Wu, Slesnick, & Zhang, 2017) have associated depression with increased motivation.

4.1.3 Aims of the study

Previous studies of motivation for treatment among persons with AUD have yielded conflicting results (Bilic et al., 2014). The role of motivation in treatment of SUDs has been acknowledged as well as the existence of different dimensions of motivation (Groshkova, 2010), but questions remain regarding correlates of specific domains of motivation and their universality. This study attempts to complement current knowledge in two ways: first, by comparing motivation levels in a clinical sample from a low income (Uganda) with that of a high income country (US) and second, by examining its correlates in the Ugandan context which is rather characterized by negative societal beliefs and scarce treatment resources. Previous research has demonstrated the importance of monitoring clients' motivation for evaluating progress through the successive stages of engagement, treatment and recovery and for adopting specific motivational interventions to address their needs (Cengiz, Deveci, & Yapici, 2015).

4.2 Methods

4.2.1 Participants

Respondents (n = 100) were recruited from two purposefully selected residential AUD treatment facilities in Kampala, Uganda. A total of 60 respondents were recruited from the only specialised public addiction treatment facility in Kampala (i.e., a 25-bed unit/ward of the National Mental Referral Hospital). Another 40 respondents were recruited among service users in a private centre (conveniently located 10 kms away) with a bed capacity of 15 clients. These settings were chosen as they offer comparable residential treatment programs, based on the Minnesota model which combines the 12-steps program with pharmacological and psychosocial approaches and emphasizes the importance of abstinence from all mood-altering substances (Kalema, Vindevogel,

Baguma, Derluyn, & Vanderplasschen, 2015). The two treatment settings differ in terms of infrastructural and human resources (Kalema et al., 2015). Medical and psychosocial approaches are distinct features of addiction management in the hospital and at the private rehabilitation centre, respectively. While both services charge treatment fees (approx. 14 USD/day), the public facility offers a range of free services for the majority of the service users.

4.2.2 Procedure

Baseline data were collected between June 2014 and August 2015 at the two study sites. The research protocol was approved by the ethical commission of the Faculty of Psychology and Educational Sciences at Ghent University (2014/11) and the Uganda National Council of Science and Technology (SS3511). Respondents were recruited following admission in one of the treatment settings. Prior to the start of the study, potential participants were briefed individually about the purpose of the study and their role, as well as about ethical implications. Before starting baseline assessments, written informed consent was obtained. Only respondents who voluntarily accepted participation were included in the study. Service users were eligible if they were: 1) diagnosed with alcohol dependence as primary substance; 2) admitted to residential treatment for < 2 weeks; and 3) in a stable psychological and physical state. Based on the eligibility criteria, co-ordinators at both programmes asked eligible service users to participate. During the study period, 150 persons were screened in the public treatment centre and 73 in the private centre, resulting in a participation rate of 40 and 54%, respectively. Most excluded service users at the public hospital were in an unfavourable psychiatric condition (according to the staff) or did not use alcohol as primary substance. The main reason for exclusion in the private centre was that they reported alcohol was not their primary substance. Also, potential participants who declined consent and those without proper address or who were unable to name a contact person for future follow-up assessments were not included.

Participants were assessed by two research assistants (i.e., female master students in clinical psychology), following a standardized protocol. The data collectors were trained in administering the instruments and were requested to observe the emotional wellbeing of the respondents during the assessments and, if necessary, to suspend/terminate the assessment (e.g., in case the

assessment led to emotional disturbance). Completing the questionnaires usually took between 60 and 90 minutes, but respondents were put under no obligation to complete all interviews in one session and those who expressed uneasiness during the process were offered a break or referred to their respective counsellors until they reported to be fit to complete. All respondents completed the baseline assessment and did not receive any incentive for participation in the study.

4.2.3 Measures

Standardized instruments were used for measuring motivation, QoL, addiction severity and psychopathology at the baseline assessment. The instruments were piloted among 10 service users (5 in each treatment centre). Some remarks were made regarding the cultural appropriateness of the ASI (see below), leading to the modification and exclusion of some inappropriate items (details available upon request from the first author).

Socio-demographic variables: A self-report questionnaire was used to collect information regarding participants' gender, age, educational background, marital status, religion and the treatment setting. Treatment setting refers to the study site where respondents were treated at baseline. Age refers to participants' age at the baseline assessment. Educational status indicates whether respondents were attending college/university or attained a college/university degree. The dichotomous variable 'marital status' states whether respondents were living (versus not living) with a partner. 'Religion' indicates to which major religious group respondents belong: (1) Anglican/protestant; (2) Roman Catholic; and (3) Muslim or any other religion.

TCU Treatment needs and Motivation scale (TCU MOTForm): The TCU MOTForm assesses treatment motivation and consists of 5 subscales with good concurrent validity (Simpson, 1994). Four scales measure internal motivation, and one ('pressure for treatment') assesses external motivation. The 'problem recognition' scale ($\alpha = .84$ in the current study) (9 items) is designed to measure personal acknowledgment (or denial) of behavioural problems resulting from substance use. The TCU 'desire for help' scale ($\alpha = .85$) (6 items) is designed to assess awareness of the intrinsic need for change and interest in getting help. The TCU 'treatment readiness' scale ($\alpha = .76$) (8 items) represents an assessment of the decision to 'act', in the form of specific commitments to formal treatment. The 'treatment needs' scale ($\alpha = .72$) (5 items) measures clients' need of

clinical and educational/vocational services. In addition, the TCU offers a scale to measure external motivation, i.e., 'pressure for treatment' ($\alpha = .46$) (7 items). All items are measured on a 5-point rating scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Domain scores range from 10 to 50, with higher scores indicating higher motivational levels.

Addiction Severity Index – 6th version (ASI-6): Addiction severity was measured using the ASI-6 (McLellan, Cacciola, Alterman, Rikoon, & Carise, 2006), which consists of seven domains: i.e., medical, employment, alcohol, drugs, legal, family and psychiatric status. As some items were deemed culturally inappropriate and recent status scores could therefore not be calculated, we focused in this study on a selection of 10 key ASI items which were not covered by the other instruments. Employment status was recoded as 'employed' to represent both fulltime and part-time work, while 'unemployed' referred to those not in paid employment (including students). The extent of alcohol problems was assessed using the continuous variable 'recent heavy drinking' (i.e., number of days of at least (5-men, 4-women) drinks in the past 30 days) and the dichotomised variable 'treatment history' (i.e., 'prior' vs 'no prior treatment'). For the drugs domain, only the item 'number of days of recent drug use' was selected. Regarding social functioning, three dichotomous variables were recoded for 'social support' (whether or not they received support from a partner, adult relatives or close friends) and three for 'social problems' (with partner, adult relatives or close friends).

WHOQoL-BREF: Quality of Life was measured using the WHOQoL-BREF, the brief QoL questionnaire developed by the WHO (Cummins et al., 2004; WHOQOL Group, 2008). The WHOQoL-BREF consists of 26 items scored on a scale from 1 ('very poor') to 5 ('very good') and has been proven to be a reliable and valid self-report instrument (Masthoff, Trompenaars, Van Heck, Hodiamont, & De Vries, 2005). Two benchmark items are used as an indication of one's overall perception of QoL and health: (1) 'How would you rate your QoL?', and (2) 'How satisfied are you with your health?'. The 24 remaining WHOQoL-BREF items are clustered around four domains. 'Physical health' refers to the subjective evaluation of one's physical wellbeing. 'Psychological health' relates to one's assessment of mental wellbeing. The 'social relationships' domain assesses one's satisfaction with social networks, and 'environment' evaluates one's satisfaction with his/her neighbourhood. Domain scores range from 0 to 100, with higher scores

indicating a better QoL. In the current study, the internal consistency was as follows: ‘overall QoL’ (Q1 and Q2), $\alpha = .62$; ‘physical health’, $\alpha = .51$; ‘psychological health’, $\alpha = .77$; ‘social relations’, $\alpha = .45$; and ‘environment’, $\alpha = .67$.

Hopkins Symptom Checklist for Adolescents–37 (HSCL–37A): The HSCL–37A was administered to screen for psychosocial and emotional distress. Drawing on questions from the DSM-IV, the HSCL–37A represents an empirically supported framework (Bean, Eurelings-Bontekoe, Derluyn, & Spinhoven, 2014). Although initially designed for screening adolescents at risk for developing psychopathology, it has been successfully applied to wider populations to identify psychosocial and psychiatric symptoms (Bean, Eurelings-Bontekoe, Derluyn, & Spinhoven, 2014). The questionnaire consists of 37 items: 10 for anxiety, 15 for depression, and 12 items for externalizing behaviour. While the ‘anxiety’ cluster comprises symptoms that are associated with high levels of anxiety such as nervousness, tension and restlessness, panic attacks and a pounding/racing heart (Derogatis, Lipman, Rikels, Ulenhoth, & Covi, 1974), the ‘depression’ cluster consists of symptoms usually associated with the clinical syndrome of depression (Bean et al., 2004). The ‘externalizing behaviour’ cluster focuses on risk behaviour, such as bullying others, starting fights and stealing things and is associated with DSM-IV conduct disorder (APA, 2000). The HSCL–37A uses a 4-point rating scale (never = 1, sometimes = 2, often = 3, always = 4) to indicate how often the respondent feels or behaves as reported in the questionnaire. Cronbach’s alpha values for this instrument were: anxiety ($\alpha = .68$), depression ($\alpha = .82$) and externalising behaviour ($\alpha = .71$).

It is worth noting that the reliability scores for ‘pressure for treatment’ (TCU MOTForm), ‘anxiety’ (HSCL–37A) and ‘physical’, ‘social’ and ‘environmental’ domain scores of the WHOQoL-Bref were below .70 and should hence be interpreted with caution. Still, we considered the findings from this unique setting valuable to be presented in this chapter, given the strong evidence in recent literature regarding their impact on motivation for treatment and, eventually, recovery in substance using populations.

4.2.4 Data analysis

The Statistical Package for the Social Sciences (SPSS) version 20.0 was used for all analyses, with a $p < .05$ as standard for statistical significance. First, we present descriptive statistics of the study sample and their motivation for treatment, as well as regarding potential correlates of motivation (i.e., socio-demographic variables, addiction severity, psychological symptoms and QoL). A one-sample t-test is performed to compare the scores from the TCU manual (TCU Institute of Behavioral Research, 2005), with the results of this study's motivational scores. The relationship between (aspects of) motivation for treatment and the selected correlates is then explored. Pearson correlation coefficients (r) were calculated to determine the relationship between motivation for treatment and continuous variables. The relationship between motivation for treatment and categorical variables with 2 or more categories was analyzed using an Independent samples t-test or One-way ANOVA test, respectively. Third, variables that were significantly related to motivation for treatment were selected for subsequent analyses. A series of five ordinary least squares linear regression analyses was performed, with each of the five TCU MOTForm domain scores as dependent variable. In each of these five analyses, the selected factors were included as independent variables, using both forward selection ($p \leq .05$) and backward elimination ($p \geq .10$). The adjusted R^2 was used to indicate the variation in dependent variable scores that was accounted for by the selected models. All model assumptions were examined. Overall, the assumptions seem to have been met, with only a slight concern regarding violation of the assumption of homoscedasticity and linearity for one out of five dependent variables (i.e., 'problem recognition'). This means that, overall, the linear regression models appear to be accurate for the current study sample, as well as generalizable to the population of alcohol service users in Uganda (details available from the first author upon request).

4.3 Results

4.3.1 Sample description

Descriptive statistics are presented in Table 4.1. Study participants were between 17 and 53 years old, with a mean age of 31.6 years ($SD = 8.82$). The majority of the sample was male ($n = 95$), living with a partner ($n = 78$), employed ($n = 63$), and (had) attended college/university education ($n =$

58). Respondents reported an average of 8 years ($SD = 6.63$) of heavy alcohol use and 61 of them were treated previously for AUD. Most of them ($n = 60$) had used other drugs than alcohol. 93 respondents indicated to receive support from adult relatives, while 71 reported support by close friends. At treatment entry, 63 participants reported problems with their partner.

The highest mean TCU MOTForm-scores were observed for internal motivation: ‘desire for help’ ($M = 37.93$; $SD = 8.34$) and ‘treatment readiness’ ($M = 37.50$; $SD = 6.83$), followed by ‘problem recognition’ ($M = 33.92$; $SD = 7.81$) and ‘treatment needs’ ($M = 32.38$; $SD = 8.29$). Participants reported low scores for external motivation (‘pressure for treatment’): ($M = 26.83$; $SD = 5.56$). Further investigations showed significant positive correlations between all five motivation domains, apart from the correlation between ‘pressure for treatment’ and ‘treatment readiness’ that was not significant.

A one sample t-test that compared the scores from the TCU manual based on a US national sample of 1,700 service users with SUDs (TCU Institute of Behavioral Research, 2005) revealed mixed findings. While ‘desire for help’ was statistically lower ($t(76) = -5.19$, $p = .00$) among Ugandan service users (37.9) in comparison with their American counterparts (39.9) norm scores regarding ‘treatment readiness’ (38.3 for US vs 37.5 for Uganda) and ‘treatment needs’ (32.4 for US vs 32.4 for Uganda) did not differ significantly between the two groups. It was not possible to compare norm scores on ‘problem recognition’ and ‘pressure for treatment’ as they were not present in the TCU manual (TCU Institute of Behavioral Research, 2005).

The overall QoL scores among Ugandan alcohol service users were relatively low ($M = 56.89$; $SD = 19.97$). The highest QoL-scores were found for the environmental domain ($M = 64.42$; $SD = 12.38$), followed by physical ($M = 60.57$; $SD = 13.20$), psychological ($M = 57.62$; $SD = 16.50$) and social QoL ($M = 56.75$; $SD = 19.05$).

Regarding psychological symptoms, we observed high scores for depressive symptoms ($M = 28.30$; $SD = 5.84$), while scores for anxiety ($M = 18.19$; $SD = 3.67$) and externalizing behaviors ($M = 18.11$; $SD = 4.22$) were at similar levels.

Table 4.1
 Characteristics of the study sample ($n = 100$)

Socio-demographics and other covariates		N / %
Gender	Male	95
	Female	5
Treatment environment	Private NGO	40
	Public psychiatric hospital	60
Educational level	No College/University	42
	Attended College/University	58
Marital Status	Not living with a partner	78
	Living with a partner	22
Religion	Catholic	30
	Anglican/Protestant	51
	Moslem and others	18
Motivation for Treatment		M (SD)
Internal motivation	Problem Recognition	33.92 (7.81)
	Desire for Help	37.93 (8.34)
	Treatment Readiness	37.50 (6.83)
	Treatment Needs	32.38 (8.29)
External motivation	Pressures for Treatment	26.83 (5.56)
Addiction Severity Index (ASI) items		N / % / M (SD) ^a
Recent heavy alcohol use (number of days in the past 30 days)		20.43 (11.48) ^a
Exposure to treatment	Attended treatment before (vs. never)	61
Employment status	Employed (vs. unemployed)	63
Social functioning	Social Support - Partner: yes (vs. no)	43
	Social Support - Adult Relatives: yes (vs. no)	93
	Social Support - Close Friends: yes (vs. no)	71
	Social Problems - Partner: yes (vs. no)	63
	Social Problems - Adult Relatives: yes (vs. no)	58
	Social Problems - Close Friends: yes (vs. no)	19
QoL-Domains		M (SD)
	Overall	56.89 (19.97)
	Physical	60.57 (13.20)
	Psychological	57.62 (16.50)
	Social	56.75 (19.05)
	Environmental	64.42 (12.38)
Psychological Symptoms		M (SD)
Internalising behaviour	Depression	28.30 (5.84)
	Anxiety	18.19 (3.67)
Externalising behaviour		18.11 (4.22)

4.3.2 Bivariate relations between domains of motivation for treatment and selected dependent variables

Tables 4.2a and 4.2b show the significant bivariate relations between domains of motivation for treatment and addiction severity, psychopathology and QoL (details regarding non-significant results are available upon request from the first author). With regard to internal motivation, 'problem recognition' was found to be negatively associated with overall QoL ($r = -.23$; $p = .02$), physical QoL ($r = -.24$; $p = .02$) and environmental QoL ($r = -.20$; $p = .04$), but a significant positive relation was observed with depressive symptoms ($r = .25$; $p = .01$). Respondents living with a partner scored significantly higher on problem recognition than persons not living with a partner ($t(42.04) = -3.21$, $p = .00$). 'Desire for help' was negatively related with physical QoL ($r = -.21$; $p = .04$), but correlated positively with recent heavy drinking ($r = .21$; $p = .04$). Respondents living with a partner demonstrated higher 'desire for help' ($t(42.44) = -2.09$, $p = .04$). 'Treatment readiness' differed significantly between individuals with and without previous treatment history ($t(85.75) = -2.39$, $p = .02$) and those with and without social support from a partner ($t(96.75) = -2.88$; $p < .01$). Respondents who were new to treatment and had no support from a partner reported lower levels of 'treatment readiness'. 'Treatment needs' were negatively related with environmental QoL ($r = -.35$; $p = .00$), but also with higher anxiety levels ($r = .22$; $p = .03$). Observed treatment needs were significantly higher among respondents in the private treatment setting than in the public psychiatric hospital ($t(53.07) = 3.93$, $p = .00$). Respondents who attended college/university reported lower scores for 'treatment needs' compared to persons with lower educational status ($t(74.47) = 2.29$, $p = .03$). External motivation was significantly associated with two of the study variables: 'pressure for treatment' was negatively related to environmental QoL ($r = -.23$; $p = .02$) and experienced treatment pressure was significantly higher among respondents in the private treatment setting ($t(50.73) = 3.88$, $p = .00$).

Table 4.2a

Significant correlations between domains of motivation for treatment and variables of interest

	Pearson Correlation Coefficients				
	<i>Problem Recognition</i>	<i>Desire for Help</i>	<i>Treatment Readiness</i>	<i>Treatment Needs</i>	<i>Pressure for Treatment</i>
	<i>R</i>	<i>r</i>	<i>R</i>	<i>r</i>	<i>R</i>
<i>QoL-Overall</i>	-.23*	-.16	-.17	-.08	-.03
<i>QoL-Physical</i>	-.24*	-.21*	-.20	-.19	-.15
<i>QoL-Environmental</i>	-.20*	-.17	-.05	-.35**	-.23*
<i>Anxiety</i>	.08	.08	.05	.22*	.14
<i>Depression</i>	.25*	.18	.15	.17	.10
<i>Recent Heavy alcohol Use</i>	.19	.21*	.20	.17	.18

Note. Table 4.2a only shows significant Pearson correlations between motivation for treatment and the variables of interest (details regarding non-significant results are available upon request from the first author).

*p < .05; **p < .01.

Table 4.2b

Significant *T*-tests between domains of motivation for treatment and variables of interest

	Problem Recognition				Desire for Help				Treatment Readiness				Treatment Needs				Pressure for Treatment			
	M (SD)	<i>T</i>	<i>df</i>	<i>p</i>	M (SD)	<i>T</i>	<i>df</i>	<i>p</i>	M (SD)	<i>t</i>	<i>df</i>	<i>P</i>	M (SD)	<i>t</i>	<i>df</i>	<i>p</i>	M (SD)	<i>t</i>	<i>df</i>	<i>p</i>
Marital status		-3.21	42.04	.00		-2.09	42.44	.04		-1.32	31.92	.20		-1.90	34.51	.07		-1.05	26.72	.30
• Not Living as Married	32.79 (7.88)				37.12 (8.61)				36.10 (10)				31.56 (8.22)				26.44 (4.94)			
• Living as married	37.93 (6.24)				40.76 (6.76)				39.26 (7.23)				35.27 (8.06)				28.18 (7.31)			
Treatment setting		.63	52.67	.53		.79	56.07	.43		1.07	57.43	.29		3.93	53.07	.00		3.88	50.73	.00
• Private NGO	34.62 (10.37)				38.84 (10.67)				38.49 (8.58)				36.56 (10.03)				29.63 (6.90)			
• Public psychiatric Hospital	33.48 (3.62)				37.33 (6.43)				36.86 (5.38)				29.67 (5.51)				25.00 (3.48)			
Education level		.96	93.58	.34		1.56	87.49	.12		1.14	90.16	.26		2.29	74.47	.03		.88	80.90	.38
• No University Education	34.80 (7.07)				39.46 (8.16)				38.41 (6.51)				34.86 (9.07)				27.42 (5.88)			
• Have University Education	33.31 (8.35)				36.84 (8.35)				36.85 (7.03)				30.76 (7.35)				26.40 (5.34)			
Treatment Exposure		-1.31	85.11	.20		-1.52	82.43	.13		-2.39	85.75	.02		-1.75	91.90	.08		-1.23	91.80	.22
• No prior treatment	32.68 (7.47)				36.37 (8.19)				35.54 (6.36)				30.67 (7.20)				31.50 (8.94)			
• Attended prior treatment	34.74 (7.98)				38.94 (8.34)				38.77 (6.87)				33.50 (8.81)				33.53 (7.31)			
Social support		-1.77	96.97	.08		-1.79	94.37	.08		-2.88	96.75	<.01		-1.25	96.58	.22		-.49	82.67	.63
• No Partner support	32.76 (8.49)				36.70 (9.56)				35.90 (7.41)				31.50 (8.94)				26.58 (5.20)			
• Have partner support	35.45 (6.62)				39.52 (6.15)				39.59 (5.38)				33.53 (7.31)				27.14 (6.06)			

Note. Table 4.2b only shows significant correlations between motivation for treatment and the variables of interest (details regarding non-significant results are available upon request from the first author).

p* < .05; *p* < .01

4.3.3 Regression models predicting motivation for treatment

Table 4.3 shows the linear regression models including significant determinants of TCU MOTForm domains of motivation, after variables were added and removed stepwise. The highest adjusted R^2 (.27) was found for the domain 'treatment needs', indicating the significant impact of treatment setting, recent heavy drinking, partner support and environmental QoL on this domain. The model for 'pressure for treatment' had an adjusted R^2 of .22, including two main determinants 'treatment setting' and 'recent heavy alcohol use'. The regression models for the other domains of internal motivation explained less of the variance. The adjusted R^2 for 'treatment readiness' was .19, with partner support, exposure to treatment and recent heavy alcohol use as main determinants. The model for 'problem recognition' explained 16% of the total variance, including educational status, living with a partner, depressive symptoms and previous exposure to treatment as significant determinants. Finally, the selected variables only explained 3% of the variance of 'desire for help', with one significant predictor (physical QoL).

Table 4.3

Linear regression models predicting domains of motivation for treatment

Dependent Variable	Significant Independent variables	Unstandardized Coefficients		Standardized Coefficients		<i>P</i>	<i>R</i> ²	<i>R</i> ² Adjust	F(df)	<i>p</i>
		B	Std. Error	Beta						
Problem Recognition (Model 4)	(Constant)	22.74	3.92			.00	.19	.16	5.5(4, 92)	<.01
	Marital status	5.74	1.83	.31		.00				
	Depressive symptoms	.36	.13	.27		<.01				
	Education	-3.38	1.56	-.21		.03				
	Treatment exposure	3.07	1.53	.19		<.05				
Desire For Help (Model 1)	(Constant)	46.06	3.91			.00	.05	.03	4.43(1, 95)	.04
	QoL Physical	-.13	0.63	-.21		.04				
Treatment Readiness (Model 3)	(Constant)	30.35	1.68			.00	.21	.19	8.42(3, 93)	.00
	Social support (partner)	4.50	1.28	.33		.00				
	Exposure to treatment	4.27	1.30	.31		.00				
	Recent heavy alcohol use	.13	.06	.22		.02				
Treatment Needs (Model 4)	(Constant)	40.48	4.14			.00	.30	.27	9.84(4,92)	.00
	Treatment centre	-6.68	1.65	-.39		.00				
	Recent heavy alcohol use	.18	.07	.25		<.01				
	Social support (partner)	3.30	1.48	.20		.03				
	QoL – Environmental	-.14	.06	-.21		.03				
Pressure For Treatment (Model 2)	(Constant)	27.32	1.12			.00	.23	.22	14.29(2,94)	.00
	Treatment centre	-5.16	1.04	-.46		.00				
	Recent heavy alcohol use	.13	.05	.27		.00				

Note. For each dependent variable, only the final model is presented in the table, with all final models having a significant F change value.

p* < .05; *p* < .01.

4.4 Discussion

According to one of the leading scholars in addiction research, Robert West (2006), addictive behavior is best understood by scrutinizing human motivational systems. By identifying levels of treatment motivation and their correlates among 100 alcohol service users entering treatment in Kampala (Uganda), we distinguished several factors likely to attract and retain people with AUD in treatment in a low-income country with limited social awareness of alcohol problems and low belief in treatment effectiveness (Kalema et al., 2017). Motivation was confirmed as a multi-layered construct, including several domains with specific correlates. Ugandan alcohol service users' scores for treatment motivation (TCU MOTForm) were comparable to those of a large sample of alcohol and drug users from treatment programs in the United States as highlighted in the TCU Institute of Behavioral Research (2005). Scores on 'desire for help' were statistically lower among Ugandan service users, but 'treatment readiness' and 'treatment needs' did not differ from that of American service users (Joe et al., 2002; Simpson, 2004). While the cultural appropriateness of the TCU MOTForm and similar motivation instruments remains a subject of further inquiry, the low desire to receive help confirms the findings of our qualitative study that highlighted limited problem awareness, treatment resistance and lack of belief in treatment effectiveness as major barriers to AUD treatment in Uganda (Kalema et al., 2017).

Despite the poor reliability of the 'pressure for treatment index' ($\alpha = .46$), scores for external motivation were generally low, indicating few external factors urging people to enter treatment. External motivation was associated with other variables than most internal motivation domains, in particular treatment setting and the subjective evaluation of one's environment (environmental QoL). Persons who were treated in the small-scale private treatment centre experienced more external pressures for treatment than individuals in the public psychiatric hospital. De Leon and colleagues (2001) and Hiller and colleagues (2002) have linked motivation with suitability of the program and feelings of psychological safety among clients. Although mandatory judicial treatment for substance use problems is not common in Uganda, the higher pressure for treatment among users in the private centre could be resulting from the fact that they attend paid services, which warrants further scientific inquiry.

Motivation for change has been conceptualized as a stage process (Saunders et al., 2006), starting from denial to problem recognition, followed by a decision that change and/or help is needed ('desire for help') and eventually seeking help ('treatment readiness'). These motivational stages are affected by similar, but different determinants. Increased 'problem recognition' correlated with poor QoL. Higher depression scores, living with a partner, lower educational achievement and previous treatment experiences were retained in the model predicting 'problem recognition'. Having a partner appears to be crucial to raise problem awareness among persons with alcohol problems (Cornelius et al., 2014). Also, experiencing negative alcohol-related consequences (depressive feelings, poor QoL) was associated with the initial steps of behavioral change in this sample of Ugandan alcohol service users. Although Field and colleagues (2007) observed that mental health concerns can be a barrier for treatment, our findings back studies that associated depression with increased motivation. Groshkova (2009) and Bilici (2014) explained that the presence of concurrent psychiatric conditions may increase problem awareness, just like the presence of a medical condition. Moreover, clients in distress are known to cooperate better than those who are not (Simpson, 1994). Wu, Slesnick, and Zhang (2017) even assert that depression may convey a better prognosis for treatment outcomes. Additional research is necessary to further establish the relationship between treatment motivation and severity of depression, an area that was not explored in this research.

The second phase in the motivational stage process (increased 'desire for help') was primarily affected in this sample by poor physical QoL, but also correlated with frequency of recent heavy drinking and living with a partner. The inverse relationship between QoL and motivation implies an increase in the perceived benefits of treatment when individuals' lives get worse. Simpson (1994) and Miller and Tonigan (1996) have explained that the discomforts of life are a prerequisite to motivation for treatment, a conclusion reiterated by Groshkova (2009). Although it appeared that deterioration in physical and environmental QoL provides a wake-up call and increases users' desire to receive treatment (Bilici, 2014), more research is necessary about the strength of this association in Uganda, since reliability scores regarding overall QoL and physical QoL in particular were moderate to low. Moreover, its contribution in explaining 'desire for change' was very limited (3% of the explained variance).

‘Treatment readiness’ and accepting that treatment is needed for behavioral change (Simpson, 1994) was associated with having been in treatment before and experiencing support by a partner. De Leon and Jainchill (1986) have previously associated higher motivation with higher tenure in treatment, indicating that cumulative treatment effects play an important role in individuals’ recovery process (McLellan, 2002). While just the fact of living with a partner appears important to raise levels of problem awareness, experiencing actual support from a partner seems crucial to actually engage with treatment. Partner support has been documented elsewhere as a pillar for recovery as it creates sustainable (autonomous) motivation (Cornelius et al., 2017). As such, our findings confirm the proposition of the SDT that people rely on their innate motivation when their fundamental needs for relatedness are met (Sheldon et al., 2003). This finding stresses the important role of the partner and family, not only during treatment but also before treatment to promote participation. Prevention and awareness raising campaigns should therefore not only target alcohol users, but also their families. Frequency of heavy drinking was another decisive factor in the final regression model for ‘treatment readiness’. It also correlated with treatment needs and pressure for treatment, indicating that motivation for treatment is enhanced by the uncomfortable effects of alcohol intoxication and dependence (Probst et al., 2015; Wu, Slesnick, & Zhang, 2017). This also links with what Prochaska and Di Clemente (1986) refer to as the ‘action’ stage in their change theory, based on the recognition of “hitting bottom”.

The ‘treatment needs index’ refers to individuals’ problem awareness and perception of specific problems that need to be addressed during treatment. The selected regression model fit best with this domain and predicted 27% of the variance in the domain ‘treatment needs’. Significant predictors of higher treatment needs were treatment setting (higher needs in the private treatment center), frequency of heavy drinking, support by a partner and low environmental QoL. Treatment needs also correlated with higher levels of anxiety and low educational attainment, but these variables were not retained in the final regression model.

4.4.1 Implications of our research

Since we were unable to find any studies on motivation and AUD treatment in developing countries in the literature, this study may help to identify factors associated with various domains of motivation for treatment in Uganda and other SSA countries. However, as this study is based on individuals entering treatment, we cannot make any conclusions regarding why Ugandans with AUD do not seek treatment. Different factors correlate with different domains of motivation, which calls for a comprehensive approach of motivation and individualised assessment and personalised treatment plans for alcohol service users, as recommended in earlier studies on treatment motivation (Groshkova, 2009). The relatively low scores for desire for help as compared to American norm scores may indicate that the majority of alcohol users who enter treatment in Uganda are not fully aware of their problem nor admit their need for help. Therefore, motivational enhancement approaches need to be integrated in current AUD treatment programs, in particular for service users who don't live with a partner, have high educational attainment and are treated in public psychiatric hospitals, as well as training staff for applying these techniques (Cornelius et al. 2017). Also, external motivation scores were low among Ugandan alcohol service users, which suggests the need for outreach activities and strengthening contextual aspects that may increase treatment participation. Besides the family and social network, policy and legal interventions can raise awareness of substance use problems and have been associated with more active treatment involvement and better treatment outcomes among alcohol service users (Bilici, 2014).

Frequency of heavy drinking and treatment environment are significant and independent predictors of both external and internal motivation. Also, various motivational domains are closely related. Consequently, treatment motivation should be regarded as a comprehensive construct, rather than viewing internal and external motivation as separate concepts that do not interact (Deci & Ryan, 2000). As suggested by Cornelius and colleagues (2017), external motivation can be used to enhance internal motivation and vice versa. Also, SDT-principles (supporting autonomy, competence building, fostering relatedness) can be used to develop both intrinsic and extrinsic treatment motivation. Specifically, the contribution of relatedness towards differences between treatment environments could be further explored. Partner support was the most common

correlate of internal motivation domains, which illustrates the importance of involving loved ones in treatment programs (Sheldon et al., 2003).

Addiction severity and deteriorated QoL should not always be seen as negative factors, as they may urge problem users to seek treatment. Treatment setting emerged as an independent determinant of 'treatment needs' and 'pressure for treatment', an observations that clearly needs more research to be explained. Yet, this difference may be caused by more psychosocial services in the private program. As service users paid for treatment services at the private study site, it is necessary to understand to which extent motivation is influenced by treatment costs.

4.4.2 Strengths, limitations and future research recommendations

This is one of the first studies measuring motivation for AUD treatment in a low-income country. As such, we made use of standardized Western instruments and referred to comparable studies carried out in western societies, as literature on this topic is virtually non-existent in Uganda and other African countries. Second, this study relied heavily on self-report, despite the risk of inaccurate descriptions of symptoms/behaviours by respondents who may want to please the interviewers (social desirability). Third, results from the HSCL-37A may not be completely reliable as the instrument was essentially designed for use in adolescent populations. Forth, to address the cultural inappropriateness of some ASI-items (Cacciola, Alterman, Habing, & McLellan, 2011), results were analysed at item level and might have differed, if the analyses were done at domain level. Additionally, the reliability scores for the 'pressure for treatment' domain and physical QoL were rather weak, requiring caution when interpreting these scores. The amount of explained variance (adjusted R^2 results) by the regression models was also relatively low. Further research is needed that includes more influential correlates of motivation among a larger sample, as well as longitudinal research on the impact of motivation on treatment outcomes.

4.5 Conclusion

Motivation is a dynamic concept, consisting of various domains that are determined by different factors. The influence of addiction severity and treatment setting cuts across internal and external factors. While QoL and psychological wellbeing correlated negatively with internal motivation, living with a partner and having lower educational qualifications were associated with higher internal motivation. Our results support the need for motivational enhancement approaches during AUD treatment, as well as the need to pay attention to clients' unique needs as influenced by their background, indicators of addiction severity, psychopathology, QoL and treatment setting. External motivation can be stimulated by policy and legal interventions, which are lacking for the moment in Uganda. Also, further studies are necessary to explore additional correlates of motivation for treatment among alcohol service users in Uganda and to highlight the longitudinal impact of the identified factors and domains of motivation on treatment outcomes.

PREDICTORS OF EARLY RECOVERY AFTER TREATMENT FOR ALCOHOL USE DISORDERS IN UGANDA

Abstract

Background: Despite the need for context-specific interventions for the management of SUDs, data on treatment for AUD in developing countries are scarce. This study explores aspects of early recovery and investigates correlates and predictors of alcohol use after residential AUD treatment.

Methods: 78 respondents were followed up using the Addiction Severity Index–6, Hopkins Symptom Checklist–37 for Adolescents and WHO Quality of Life–BREF within two weeks of admission and six months later. Other baseline measurements covered the Texas Christian University Treatment needs and Motivation scale and Treatment Perception Questionnaire (TPQ). The TPQ was assessed after 30 days in treatment. Early recovery was denoted by reductions in alcohol use severity (heavy drinking, alcohol-related expenditure and addiction symptoms). Its predictors at the six-month follow-up were identified with one way analysis of covariance and further analysed using linear regression analyses.

Results: Significant reductions in addiction severity (heavy alcohol use, expenditure on own alcohol) and psychopathology, as well as improvements in QoL were observed after treatment. Baseline motivation for treatment (Treatment needs) was the single predictor of reduction in heavy drinking. A lower educational status, attending treatment in a private centre and not living with a partner were independent predictors for reductions in expenditure on alcohol. Reductions in alcohol symptoms were predicted by younger age, having problems with close friends, treatment satisfaction and treatment in the private facility.

Conclusion: AUD treatment is followed by an increase in users' abstinence from alcohol, reduced levels of alcohol use and improvements in psychological wellbeing and QoL. The treatment environment, personal characteristics and problems with close friends were the main predictors of early recovery from AUD. Further research is necessary to identify more influential factors of treatment outcomes in Uganda.

Keywords: *Recovery; treatment effectiveness; Quality of Life; addiction severity; alcohol service users; Uganda*

5.1 Introduction

Publications on alcohol treatment programs and their outcomes in low-income countries are scarce (De Silva, Peiris, Samarasinghe, & Ellawala, 1992; Kalema & Vanderplasschen, 2015). Yet, alcohol dependence is a major health and social concern in the Sub-Saharan region (WHO, 2014). In Uganda, high per capita alcohol consumption (9.8 litres) leads to rampant negative consequences (Graham, et al., 2011; Kalema, Vindevogel, Baguma, Derluyn, & Vanderplasschen, 2015). Although 9.8% of the Ugandan population meet DSM-5 criteria for AUD (Kabwama et al., 2016; WHO, 2014), research on AUD treatment is scanty as treatment itself is new and resources are limited (Kalema, Vindevogel, Baguma, Derluyn, Bannink, & Vanderplasschen, 2017). Studying treatment outcomes and its predictors is considered a crucial step in achieving more accurate prognoses and for developing effective interventions, as it helps clinicians to recognize underlying factors that perpetuate the disorder and to delineate subgroups for which specific interventions are necessary (Charney, Zikos, & Gill, 2010; Grove, Zald, Lebow, Snitz, & Nelson, 2000). Consequently, this study assesses AUD treatment outcomes and its determinants to offer insight in aspects of effective interventions and psychosocial and contextual factors affecting these outcomes in Uganda.

5.1.1 AUD and treatment outcomes

AUD is a cluster of cognitive, behavioral and psychological symptoms, indicating a person's compulsive and continued use of alcohol, despite significant alcohol-related problems (APA, 2013). The severity of AUD is commonly explained by the frequency and intensity of drinking (Babor et al., 1994) and by the presence of specific symptoms (withdrawal symptoms following cutting down or quitting alcohol, problems at work/school, troubles with the law, craving) (APA, 2013). Although AUD is considered a chronic disorder (McLellan, 2002), treatment is a recommended strategy to alleviate or suppress its symptoms and support individuals toward recovery (Welch, Rettammel, & Moberg, 2002; WHO, 2010).

AUD treatment outcome measures largely depend on the hypotheses studied, but abstinence and reduced intensity of drinking are the most commonly used indicators (Babor et al., 1994). Although abstinence from all alcoholic beverages is a well-known indicator of treatment success (Babor et

al., 1994), results on this parameter vary as remission rates range between 21% to 83% (Charney, Zikos, & Gill, 2010; Driessen et al., 2011). Consequently, researchers (e.g., Dawson et al., 2005) have also looked into non-abstinent recovery (i.e., return to low risk drinking) as a treatment outcome indicator. Due to the limitations of substance use measures as outcome indicators and the co-occurrence of alcohol and other substance-related problems (such as the high prevalence of psychological problems, especially depression and anxiety, among persons with AUD (Herz et al., 1990; Ross et al., 1988; Tomasson and Vaglum, 1995)), several authors (e.g., Joe, Broome, Rowan-Szal, & Simpson, 2002; Millson et al., 2004) have also looked at psychosocial functioning to evaluate treatment outcomes. Improved psychological wellbeing and substance users' QoL have lately attracted interest of researchers and clinicians as indicators of successful treatment (Driessen et al., 2011; Fischer et al., 2005). QoL, generally described as an overview of one's challenges and opportunities in relation to one's ambitions (Maremmanni et al., 2007), is suggested as an important feature of recovery since it focuses on outcome indicators that are considered important by service users themselves (Colpaert, De Maeyer, Broekaert, & Vanderplasschen, 2013; Fischer et al., 2005; Millson et al., 2004). To our knowledge, none of these outcome areas have been studied in low-income studies so far (De Silva, Peiris, Samarasinghe, & Ellawala, 1992), certainly not in Uganda (Kalema & Vanderplasschen, 2015).

5.1.2 Predictors of recovery among alcohol service users

Recovery is generally regarded as a process of change through which individuals achieve a greater balance of mind and body, improved wellbeing and abstinence (Substance Abuse and Mental Health Services Administration (SAMHSA), 2010). Despite the emphasis on sobriety in the American literature (Laudet & White, 2008), recent definitions of addiction recovery also look at recovery as gaining control over one's substance use, which may include occasional and non-problematic substance use (Dekkers, Beerens, & Vanderplasschen, 2017). Individuals in recovery are supported to attain personal goals and become contributing citizens, aspects hitherto compromised by their addiction. Factors affecting AUD treatment outcomes are generally clustered around four levels and their interactions: 1) individual characteristics (e.g., biological/genetic make-up, cognitive functioning, personality, self-efficacy, motivation, lifestyle, specific needs, goals, recovery expectations and presence of co-occurring disorders); 2)

treatment-related aspects, treatment processes and service features (see below); 3) nature and severity of alcohol problems; and 4) environmental and social conditions (Simpson & Joe, 2004; Borbor, Adamson, Sellman, & Frampton, 2008; Charney, Zikos, & Gill, 2010).

Individual characteristics that have been associated with recovery are: religiosity and employment (Adamson, Sellman, & Frampton, 2008; McKay & Weis, 2001) while the role of others such as age and educational attainment remains unclear (Charney, Zikos, & Gill, 2010; Gilder, et al, 2008). Also the contribution of other socio-demographic variables, such as gender and marital status, is still debatable (Beattie, 2001; Reiber, Ramirez, Parent, & Rawson, 2002). Ciraulo and colleagues (2003) asserted that not marital status per se, but rather the attitudes of spouses and family is essential in supporting recovery. Hence, Beattie (2001) concluded that the most widely examined relationship variables might be the least likely to predict outcome. The relationship between psychopathology and treatment outcomes is also center of the debate. Some researchers (e.g., Ciraulo, Palacios-Boix, Negrete, Dobkin, & Gill, 2005; Driessen et al., 2001; Piechniczek-Buczek & Iscan, 2003) have associated psychological wellbeing with general reductions in addiction severity, which has been contradicted by other studies. For example, Kranzler and colleagues (1996) and Paraherakis and Gill (2001) have suggested that depression has no impact on addiction outcomes, while Evren and colleagues (2010) and Lahmek and colleagues (2009) contend that depression may convey a better prognosis. While reviewing predictors of substance use treatment outcomes, McKay and Weis (2001) noted that demographic variables were poor predictors, but they highlighted motivation as a relatively consistent predictor that was not frequently studied. Finally, Lozano and colleagues (2008) have associated improved QoL with abstinence or minimal/controlled drinking, but this dimension has for long been neglected in substance use research (De Maeyer, Vanderplasschen, & Broekaert, 2008).

The wide scope of treatment services and the treatment process is a major challenge in studying treatment outcomes. AUD treatment covers a multiplicity of options, including the 1) setting (e.g., outpatient, residential, outreach), 2) intensity and duration (ranging from a few days to several months), 3) approach (e.g., group-based, peer support, individual, family-oriented or a combination of these approaches), 4) treatment components (e.g., detoxification, assessment, psycho-education, counselling, treatment of co-occurring disorders, medication therapy, case

management, employment training, continuing care), and 5) theoretical models such as CBT, motivational theories, 12-step approach, contingency management and therapeutic community treatment (SAMHSA, 2010). Not surprisingly, research on treatment aspects has yielded conflicting results, depending on the nature of the treatment process and services studied. For example, while time in treatment and number of treatment episodes are documented predictors of recovery (Adamson, Sellman, & Frampton, 2008; Ciraulo, Piechniczek-Buczek, & Iscan, 2003), some authors associated repeated admissions with poorer outcomes. Brewer and colleagues (1998) and Avants and colleagues (2000) asserted that treatment repeaters, just as those who fail to complete treatment and those with poor adherence, yielded negative results. Satisfaction with services is a recognized moderator of treatment outcomes (Marson et al., 2000), but we could not find substantiating literature on this topic from non-western countries. Apparently none of treatment outcome literature that we reviewed explored the role of treatment environment towards determining treatment outcome. Lending from the Self-determination Theory (SDT) our previous study on motivation (chapter 4) highlighted the importance of a warm social environment in enhancing treatment motivation. SDT attributes people's ability to regulate and sustain desirable behaviors to satisfying and supportive relationships (relatedness) (Sheldon et al., 2003) but the relevancy of this theory to the substance using populations is yet to be explored (Cornelius et al., 2017). Finally, the goal of most AUD treatment programs is abstinence from alcohol or at least a reduction in addiction severity. An inverse relationship between addiction severity and indicators of recovery emerges from previous literature (Donovan & Chaney, 1987), although some exceptions have been reported (Babor, Cooney, & Lauerma, 1987; Ciraulo, Piechniczek-Buczek, & Iscan, 2003) which urges to further study this association, especially in geographical areas where this haven't been studied yet.

5.2 Aims of the study

While predictors of recovery after AUD treatment have been extensively studied in high income countries, additional research is necessary to study whether these findings can be extended to low-income countries and to address some of the observed inconsistencies. Treatment outcome studies have often been criticized for want in methodological rigor. In a systematic review about studies on individual predictors of alcohol treatment outcomes, Adamson and colleagues (2008)

cited several examples of sampling errors, high attrition rates, poorly defined concepts (e.g., 'alcoholism') and failure to control for moderating variables. Attempts to synthesize findings on predictors of recovery are challenged by heterogeneity, a wide range of scales used to measure similar phenomena, inconsistent outcome criteria, varying time to follow-up, and diverse study samples, all of which hamper the reliability of the findings. Moreover, most treatment outcome studies in the last 25 years have concentrated on socially desirable outcomes (e.g., abstinence, employment, no criminal involvement) (Barnett & Hui, 2000; Fischer et al., 2005), while other (functional) outcome indicators that are important to drug users themselves (e.g., QoL, satisfaction with treatment) have largely been neglected (De Maeyer, Vanderplasschen, & Broekaert, 2008; Fischer et al., 2001). Adamson and colleagues (2008) therefore recommended to examine the most likely predictors, as well as to consider those underinvestigated with a more consistent focus on a smaller number of variables to understand predictors of specific outcomes.

This study provides the first step to benchmark AUD treatment outcomes and its psycho-social and behavioral predictors in Uganda. The goal of the study is to help clinicians and policy-makers to improve outcome prognoses, which should allow better treatment planning with respect to the type and intensity of interventions offered (Adamson, Sellman, & Frampton 2008; Ciraulo et al., 2003). The specific research questions that are addressed in this study were as follows:

- What is the course of alcohol users' addiction severity, psychopathology and QoL after residential AUD treatment?
- What factors are associated with post-treatment alcohol use among alcohol service users in Uganda?
- What baseline characteristics predict reduced alcohol addiction severity six months after treatment initiation?

Answers to these questions are crucial for designing culturally appropriate treatment programs in Uganda and other developing countries, where evidence-based parameters are needed to measure, monitor and improve program effectiveness.

5.3 Methods

This study investigated outcomes after AUD treatment and their predicting factors in a clinical sample recruited from two treatment agencies in Kampala, Uganda. To conduct this investigation, data were collected at intake and at 6 and 12-month follow-up moments, using a standardized protocol.

5.3.1 Participants

Service users from the selected agencies were eligible if they were: 1) diagnosed with alcohol dependence as primary substance, 2) admitted to residential treatment for less than 2 weeks, and 3) in a stable psychological and physical state at the time of the assessments. Participants who attended less than 30 days of treatment were automatically excluded from the study. Respondents ($n = 100$) were recruited from two purposively selected residential AUD treatment facilities in Kampala. Sixty respondents were recruited from the only specialised public addiction treatment facility in Uganda (i.e., a 25-bed unit/ward of the National Mental Referral Hospital) and another 40 were recruited among service users in a private center with a bed capacity of 15 patients. These settings were chosen as they offer comparable long-term (30-90 days) residential treatment programs based on the Minnesota model, emphasizing the importance of abstinence from all mood-altering substances (Kalema et al., 2015). The Psychiatric hospital emphasises a medical approach but like other public health sectors reported huge human resource limitations especially in its psychological programs. On the other hand, the private treatment centres which are rather established within the communities have more psychosocial professionals and corresponding activities but have obvious infrastructural based limitations as they generally exist in houses initially constructed for residential purposes (Kalema et al., 2017). While both agencies charge treatment fees (approx. 14 USD/day), the public facility has a section of free services for most of the service users.

Six months after the baseline assessments, study participants were contacted again for a follow-up interview. Twenty-two participants (see Table 5.1) could not be reached for this second assessment, resulting in a follow-up rate of 78%. Both groups were compared for any between-group differences regarding socio-demographic variables, addiction severity and

psychopathology. Social demographic comparisons at baseline revealed that the follow-up group was significantly younger ($t = -34.45(99)$, $p = 0.00$), more likely to be employed ($\chi^2(1) = 8.80$, $p = .00$) and stayed fewer days in treatment ($t = -4.45(89)$, $p = .00$) than those who were not retained in the study. No other significant differences were noted (see Table 5.1).

Table 5.1

Comparison of main characteristics of participants that were followed up after 6 months ($n = 78$) and those who dropped out ($n = 22$)

		N = 78	N = 22	Difference
		M (SD)	M (SD)	t(df) (p)
Age		32 (8.82)	30 (8.05)	-34.45(99) (.00**)
Length of stay in treatment		80.62 (43.37)	87.41 (49.42)	-4.45(89) (.00**)
		%	%	$\chi^2(1)$ (p)
Gender	Male	95	95	.01 (.91)
	Female	5	5	
Religion	Catholic	36	9	5.95 (.05)
	Anglican and other Christians	46	68	
	Moslem & other religions	18	23	
Level of education	No college/university education	37	59	3.38 (.07)
	Attended college/university	63	41	
Marital status	Single/separated/divorced/widowed	78	77	.01 (.93)
	Married/Living as married	22	23	
Employment status	Full-time or part time work	87	59	8.80 (.00**)
	Unemployed	13	41	
Treatment setting	Private NGO	41	36	.16 (.69)
	Public Psychiatric hospital	59	64	
Treatment history	No prior treatment	41	32	.61 (.43)
	Prior treatment	59	68	

* $p < .05$; ** $p < .01$.

5.3.2 Procedure

The research protocol was approved by the Ethical Commission of the Faculty of Psychology and Educational sciences at Ghent University (2014/11) and the Ugandan National Council of Science and Technology (SS3511). Respondents were recruited following admission in the respective institutions and baseline data were collected between June 2014 and August 2015, while follow-up interviews were conducted between December 2014 and February 2016. Research participants were briefed individually prior to the research about the purpose of the study and their role, as well as about ethical principles. Before starting baseline assessments, written informed consent forms were signed. Only respondents who accepted participation voluntarily were included in the

study. Based on the eligibility criteria described above, coordinators of both programmes asked eligible service users to participate.

Baseline and follow-up assessment for all the participants were conducted at the respective treatment centres in a separate room where they could talk freely. Two research assistants (i.e., female master students studying clinical psychology), conducted the assessments. The data collectors were trained in administering the instruments (see below) and were requested to observe the emotional wellbeing of the respondents during the assessments and, if necessary, to suspend/terminate the assessment (e.g., in case the assessment elicited emotional disturbance). Completing the questionnaires usually took between 60 and 90 minutes, but respondents were put under no obligation to complete all interviews in one session and those who expressed uneasiness during the process were offered a break until they reported to be fit to complete.

Selected respondents were assessed on admission and six months later. Various authors recommend evaluation of progress in recovery within six months after entering the program, since most relapses are said to happen within this period (De Silva, Peiris, Samarasinghe, & Ellawala, 1992). Treatment satisfaction was measured after 30 days as this is the intended minimal length of stay in both programs. Four weeks is comparable to the treatment length of many residential programs worldwide (Zikos & Gill, 2010). It is the period characterised by the highest treatment drop-out, also in programs that offer longer stays in treatment (Gauthier, Paraherakis, & Gill, 1997). Service users who drop out early are often assumed to fare as poorly as those who remain untreated (Stark, 1992). Follow-up assessments were planned after a phone call directly with the participants or through the contacts they had listed on the consent form. Participants did not receive an incentive for participation in the study at baseline, but they were offered transport refund for the follow-up study.

5.3.3 Instruments

Baseline assessments included following instruments: the Addiction Severity Index–6 (ASI–6), Hopkins Symptoms Check List–37 for Adolescents (HSCL–37A), WHOQoL–BREF, Texas Christian University Treatment needs and Motivation scale (TCU MOTForm), Treatment Perception Questionnaire (TPQ), and a socio-demographic questionnaire. The instruments were piloted among 10 service users (5 in each treatment centre). Some remarks were made regarding the cultural appropriateness of the ASI (see below), leading to the modification and exclusion of some inappropriate items (details available upon request from the first author).

Addiction Severity Index–6 (ASI–6): Addiction severity on admission and at follow-up was measured using the ASI–6, which consists of seven domains, i.e., medical, employment, alcohol, drugs, legal, family and psychiatric status (McLellan, Cacciola, Alterman, Rikoon, & Carise, 2006). As some items were deemed culturally inappropriate and other domains generated little evidence for the recent status scores, we decided to focus on a selection of 11 key ASI-items which assessed recent alcohol and drug use and alcohol-related consequences (details available upon request from the first author). Employment status was recoded as a dichotomous variable, with ‘employed’ representing individuals engaged in fulltime or part-time work, and ‘unemployed’ representing those not in gainful employment (including students). Severity of alcohol problems was assessed using the dichotomised variable ‘treatment history’ (i.e., ‘prior’ versus ‘no prior treatment’) and the continuous variables ‘frequency of recent heavy drinking’ (i.e., number of days of drinking at least (5-men, 4-women) drinks in the past 30 days), recent expenditure on alcoholic beverages and recent presence of alcohol (withdrawal) symptoms. At the 6-month follow-up, alcohol use and frequency of drinking were converted into two variables ‘alcohol use vs. no alcohol use’ and ‘daily drinking vs. no daily drinking’. For the drugs domain, only the item on drug use (number of days of recent drug use) was retained. Regarding social functioning, three dichotomized variables were assessed for ‘social support’ (whether they received support from their partner, adult relatives and close friends) and three for ‘social problems’ (problems with partner, adult relatives and close friends) (for details see Table 5.2).

Table 5.2

Comparison of baseline and follow-up measurements for the study sample ($n = 78$)

		T0	T1	Change
Psychological Symptoms ^a		<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>
Internalising behaviour	Anxiety	18.41 (3.53)	15.95 (3.54)	5.32**
	Depression	28.74 (5.72)	23.40 (4.83)	7.01**
Externalising behaviour		18.33 (4.46)	15.54 (3.29)	4.93**
Quality of Life		<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>
	Overall	57.37 (19.05)	68.51 (10.67)	-4.75**
	Physical	60.03 (12.52)	65.93 (14.68)	-3.10**
	Psychological	57.37 (16.3)	66.92 (14.81)	-4.54**
	Social	55.45 (19.41)	63.57 (17.05)	-3.51**
	Environmental	64.45 (12.28)	68.51 (10.67)	-2.87**
Motivation for Treatment				
	Problem recognition	33.64 (7.93)	-	-
	Desire for help	37.74 (8.36)	-	-
	Treatment readiness	37.45 (6.57)	-	-
	Pressures for Treatment	26.72 (5.53)	-	-
	Treatment Needs	31.97 (8.49)	-	-
Treatment perception ^a				
	Perception on staff	11.10 (3.02)	-	-
	Perception on program	11.49 (3.65)	-	-
Addiction Severity Index (ASI) items		<i>N (%) / M(SD)*</i>	<i>N (%) / M(SD)*</i>	<i>Sig (Mc Nemar)/t*</i>
Employment status	Employed (vs. unemployed)	68 (87)	44(56)	.00**
Drug use Items	Number of days of recent drug use	4.64 (10.05)*	2.40 (7.49)*	1.51*
	Proportion of drug users in last 30 days	20 (26)	13 (17)	.21
Alcohol use items	Years of drinking	8.59 (7.17)*	-	-
	Recent heavy drinking days (in the past one month)	20.77 (11.69)*	2.44 (4.56)*	3.20***
	Recent expenditure on own alcohol in UGX ('000) (in the past one month)	203.43 (623.54)*	36.43 (74.73)*	2.13**
	Recent alcohol symptoms (number of days in the past one month)	12.31 (11.41)*	10.78 (11.36)*	1.01*
	No alcohol use in past 6 months	2 (3)	16 (21)	.00**
Social functioning	Daily drinking in past 6 months	46 (59)	6 (8)	.00**
	Social support - Partner: yes (vs. no)	32 (41)	33 (42)	1.00
	Social support - Adult relatives: yes (vs. no)	74 (95)	74 (95)	1.00
	Social support - Close friends: yes (vs. no)	53 (68)	14 (18)	.00**
	Social problems - Partner: yes (vs. no)	50 (64)	51 (65)	1.00
	Social problems - Adult relatives: yes (vs. no)	46 (59)	25 (32)	.00**
	Social problems - Close friends: yes (vs. no)	14 (18)	34 (44)	.00**

Hopkins Symptoms Check List–37 for Adolescents (HSCL–37A): The HSCL–37A was administered on admission and after six months to screen for psychosocial and emotional distress among alcohol service users. Drawing on questions from the DSM-IV, the HSCL–37A represents an empirically supported framework. Although this questionnaire was initially designed for screening adolescents at risk for developing psychopathology, it has been successfully applied to wider (clinical and community) populations to identify possible psychosocial and psychiatric symptoms

(Bean, Eurelings-Bontekoe, Derluyn, & Spinhoven, 2014). The questionnaire consists of 37 items: 10 relating to anxiety (for this study $\alpha = .64/.79$ for baseline/follow-up assessments respectively), 15 for depression ($\alpha = .81/.83$), and 12 items for externalizing behaviour ($\alpha = .73/.48$). While the 'anxiety' cluster comprises symptoms that are associated with high levels of anxiety such as nervousness, tension and restlessness (Derogatis, Lipman, Rikels, Ulenhoth, & Covi, 1974), the 'depression' cluster consists of symptoms usually associated with the clinical syndrome of depression (Bean et al., 2004). The 'externalizing behaviour' cluster focuses on increased risk behaviour, such as bullying others, starting fights and stealing things which are associated with the DSM-IV diagnosis 'conduct disorder' (APA, 1994). The HSCL-37A uses a 4-point rating scale (never = 1, sometimes = 2, often = 3, always = 4) to indicate how often the respondent feels or behaves as reported in the questionnaire. Higher scores indicate higher probability of psychological problems.

World Health Organisation Quality of Life-BREF (WHOQoL-BREF): QoL was measured using the WHOQoL-BREF (Cummins et al., 2004; WHOQOL Group, 2008) at admission and after six months. The WHOQoL-BREF consists of 26 items, which are scored on a scale from 1 ('very poor') to 5 ('very good') and it has been proven to be a reliable and valid self-report instrument (Masthoff, Trompenaars, Van Heck, Hodiamont, & De Vries, 2005). Two benchmark items are used as an indication of one's overall perception of QoL and health ($\alpha = .64/.79$). The 24 remaining items are clustered around four domains. The 'physical health' domain ($\alpha = .43/.74$) refers to the physical wellbeing of a person. The 'psychological health' domain ($\alpha = .76/.85$) relates to one's mental wellbeing. The 'social relationships' domain ($\alpha = .44/.72$) assesses satisfaction with one's social networks, and the environment domain ($\alpha = .68/.71$) evaluates one's satisfaction with his/her neighbourhood. Domain scores range from 0 to 100, with higher scores indicating a better QoL.

TCU Treatment needs and Motivation scale (TCU MOTForm): Motivation for treatment was only assessed at baseline, using the TCU MOTForm which consists of 5 subscales with good concurrent validity (Simpson, 1994). Four scales measure internal motivation, and one ('pressure for treatment') assesses external motivation. The 'problem recognition' scale ($\alpha = .84$ in the current study) consists of 9 items designed to measure personal acknowledgment (or denial) of behavioural problems resulting from substance use. The TCU 'desire for help' scale (6 items; $\alpha =$

.85) assesses awareness of the intrinsic need for change and interest in getting help. The TCU 'treatment readiness' scale (8 items; $\alpha = .73$) represents an assessment of the decision to "act", in the form of specific commitments to formal treatment. The 'treatment needs' scale (5 items; $\alpha = .74$) measures clients' need of clinical and educational/vocational support. In addition, the TCU MOTForm offers a scale to measure external motivation, i.e., pressure for treatment (7 items; $\alpha = .44$). All items are measured on a 5-point rating scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Sub scores ranged from 10 to 50, with higher scores indicating higher motivational levels. Owing to low reliability scores, 'pressure for treatment' domain results were excluded from further analyses.

Treatment Perception Questionnaire (TPQ): The TPQ is a 10-item scale measuring client's satisfaction with treatment for substance use (Marsden et al., 2000). The TPQ was administered 30 days after their admission to the program. The instrument contains two 5-item subscales, consisting of perceptions on staff ($\alpha = .73$) (e.g., beliefs about staff's understandings of the client's problems) and perceptions of the treatment program ($\alpha = .39$) (e.g., communication about decision making), respectively. These items are scored on a 5-point scale (strongly disagree – strongly agree; 0-4). Item scores are summed, with higher scores reflecting greater satisfaction with treatment. The TPQ is reported to have good construct and discriminant validity, good internal reliability and acceptable test-retest reliability (Marsden et al., 2000). Since results on 'program perception' were very low, this subscale was also excluded from further analyses.

Socio-demographic questionnaire: A self-report questionnaire was used to collect information regarding the treatment environment, gender, educational achievement, marital status and religion (see Table 5.1). Treatment environment refers to the place where a client received treatment at the start of the study. Gender classified male and female participants, while 'educational achievement' referred to achievement in education at the time of the interview (dichotomised into 'no university/college education' vs. 'attended college/university education'). The dichotomous variable 'marital status' refers to living (versus not living) with a partner. Religion indicates whether the respondent subscribed to one of the three major religions in Uganda: (i) Anglican/protestant; (ii) Roman Catholic; and (iii) Muslim or any other religion.

5.3.4 Data analysis

The Statistical Package for the Social Sciences (SPSS) version 20.0 was used for all analyses, with a $p < .05$ as the standard for statistical significance. First, we made descriptive statistics regarding participants' socio-demographic background, addiction severity, psychological problems, QoL, motivation for treatment and treatment perception at baseline and follow-up. Based on the descriptive analyses (cell frequency ≤ 5) and identification of poor reliability results, gender and 'pressure for treatment motivation scores' and the TPQ subscale 'program perception' were respectively excluded from further analyses. Second, we used the McNemar's test to determine changes in participants' social functioning and alcohol use (categorical variables) and dependent t-tests to assess changes regarding other aspects of addiction severity and for changes in psychological functioning and QoL (continuous variables) after six months (objective 1). Third, we explored the relationship between indicators of alcohol use severity at the 6 month follow-up moment and the baseline variables of interest (objective 2). Partial correlations (r) were used to determine the relationship between alcohol use and continuous variables. The association with nominal variables with 2 or more categories was analyzed using the one way analysis of covariance (ANCOVA (F)), while controlling for the dependent variables at the baseline measurement. Fourth, those variables that were significantly related to alcohol use severity were selected for subsequent analyses. More specifically, to test the extent to which service users' alcohol use at follow-up was predicted by the significant baseline variables (objective 3), a series of three ordinary least squares linear regression analyses was performed with each of the three alcohol use severity item scores as dependent variable. In each of the three analyses, the significant correlates were included as independent variables, using both forward selection ($p < .05$) and backward elimination. The adjusted R^2 was used to indicate the variation in dependent variable scores that was accounted for by the selected model. All model assumptions were examined. Overall, the assumptions seem to have been met, with only some concern regarding violation of the assumptions of homoscedasticity, linearity and normal distribution of errors for one or more dependent variables. This means that overall, the linear regression models appeared to be both accurate for the sample and generalizable to the population (details available upon request from the first author).

5.4 Results

Respondents that participated in the follow-up study ($n = 78$) were between 17 and 53 years old ($M = 31.56$; $SD = 8.82$), were predominantly male ($n = 74$; 95%), did not live with a partner (marital status) ($n = 61$; 78%) and were employed at baseline (i.e., fulltime or part time; $n = 68$; 87%) (see Table 5.1). More than half of the respondents ($n = 46$; 59%) had been in AUD treatment before. On average, they stayed 80.62 ($SD = 43.37$) days in treatment, ranging from 30 to 180 days (see Table 5.1).

5.4.1 Addiction severity, psychopathology and QoL after treatment for AUD in Uganda

The first objective of the study was to establish the course of addiction severity, psychopathology and QoL among service users with AUD after receiving residential treatment. Baseline and follow-up assessments demonstrated statistically significant improvements regarding aspects of addiction severity, psychological functioning and QoL scores (Table 5.2). Regarding severity of alcohol use, a significant decline was noted in the number of recent days of heavy alcohol use ($t(75) = 3.20$, $p = 0.00$), as well as in the expenditures on alcoholic beverages ($t(65) = 2.13$, $p = .04$), but no significant changes were observed regarding the presence of typical alcohol-related symptoms (e.g., craving) between baseline and follow-up. An exact McNemar's test showed that there was a statistically significant increase in the number of abstinent individuals (from 3 to 21%), a significant reduction in the frequency of daily drinking (from 59 to 8%), but also a significant decline in employment levels (from 87 to 56%). Regarding social functioning, no significant changes were observed in the relations with their partner support and partner problems remained high at follow-up. Nevertheless, problems with adult relatives had decreased significantly at the time of the follow-up measurement. A significant decline was observed in the social support by close friends, as well as an increase in social problems with close friends. No significant changes in drug use were observed throughout the follow-up period.

Respondent's psychological wellbeing had improved significantly after six months, as illustrated by significant changes that were observed on the three HSCL-37A domains: depression ($t(77) = 7.01$, $p = .00$), anxiety ($t(77) = 5.32$, $p = .00$) and externalizing behavior ($t(77) = 4.93$, $p = .00$).

Participants also reported significant improvements in overall QoL ($t(77) = -4.75, p = .00$) and specific domains of QoL, including the psychological ($t(77) = -4.54, p = .00$), social ($t(77) = -3.51, p = .00$), physical ($t(77) = -3.10, p = .00$) and environmental domain ($t(77) = -2.87, p = .01$).

5.4.2 Correlates of alcohol use six months after admission

The second objective was to explore the association between three indicators of alcohol use at follow-up (i.e., frequency of recent heavy alcohol use, recent expenditure on alcohol and recent presence of alcohol-related symptoms) on the one hand, and various baseline variables that have been associated with treatment outcomes (i.e., treatment motivation, perception and duration, psychopathology, QoL, selected demographic variables and some addiction severity items) on the other hand. Table 5.3 shows the significant bivariate relationships between the independent variables and selected dependent variables.

Following baseline characteristics (i.e., marital status, social functioning, treatment needs (TCU MOTForm), treatment satisfaction (TPQ), age, educational achievement and treatment setting) were significantly associated with at least one of the alcohol severity items at the 6 month follow-up (i.e., frequency of heavy drinking, expenditure on alcohol and frequency of alcohol symptoms) (see Table 5.3). No association was found between alcohol use severity at follow-up and baseline scores for length and frequency of heavy drinking (years of alcohol use, years of regular drinking, recent heavy alcohol use, recent expenditures on alcohol), family support, treatment duration, use of other drugs than alcohol, QoL, psychological functioning, motivation for treatment (problem recognition, treatment readiness, desire for change, pressure for treatment), and religion.

Table 5.3

Significant associations between baseline measures of interest and alcohol use outcomes at 6 month follow-up ($n = 78$)

Partial Correlation Coefficients								
	Recent heavy alcohol use at 6 months			Recent expenditure on own alcohol at 6 months			Recent alcohol symptoms at 6 months	
Baseline measures	<i>R</i>	<i>df</i>	<i>p</i>	<i>R</i>	<i>df</i>	<i>p</i>	<i>R</i>	<i>p</i>
Age	-.05	63	.67	.10	63	.42	.26*	.04
Motivation for Treatment – Treatment Needs	-.25*	63	<.05	-.16	63	.21	-.11	.39
Overall Treatment Satisfaction	-.11	63	.40	-.18	63	.16	-.25*	.04

One way Analysis of covariance (ANCOVA)															
	Recent heavy alcohol use (number of days)					Recent expenditure on own alcohol (UGX)					Recent alcohol symptoms (number of days)				
	<i>M (SD)</i>	<i>F</i>	<i>Df1</i>	<i>Df2</i>	<i>p</i>	<i>M (SD)</i>	<i>F</i>	<i>Df1</i>	<i>Df2</i>	<i>p</i>	<i>M (SD)</i>	<i>F</i>	<i>Df1</i>	<i>Df2</i>	<i>p</i>
Treatment center		3.01	1	74	.09		4.37*	1	67	.04		5.81*	1	75	.02
• Private NGO	3.21 (2.00)					10,689 (1,283)					4.87 (1.85)				
• Public Hospital	7.83 (1.68)					46,024 (10,757)					10.96 (1.5)				
Education		0.43	1	74	.51		4.44*	1	74	.04		0.04	1	75	.84
• No University Education	4.81 (2.10)					10,137 (13,447)					8.15 (1.97)				
• University Education	6.57 (1.63)					46,104 (10,433)					8.65 (1.53)				
Marital Status		0.01	1	74	.93		4.23*	1	67	.04		3.18	1	75	.08
• Living alone	5.97 (1.46)					21,859 (9,397)					7.40 (1.27)				
• Living as Married	5.69 (2.75)					61,085 (16,597)					12.26 (2.40)				
Problems (Friends)		0.43	1	74	.52		0.94	1	67	.34		5.09*	1	75	.03
• No	6.27 (1.41)					35,268 (9,282)					9.62 (1.22)				
• Yes	4.04 (3.14)					14,360 (19,477)					3.12 (2.61)				

Note. Table 5.3 shows significant bivariate relationships between alcohol use at six months and baseline variables of interest (Details regarding non-significant results are available upon request from the first author).

* $p < .05$; ** $p < .01$.

After controlling for baseline status, frequency of heavy drinking at follow-up was only significantly associated with one item, i.e., baseline treatment needs motivation ($r = -.25$; $p < .05$).

Expenditure on alcohol was the second indicator of recovery at the 6 month follow-up. After controlling for baseline status, higher expenditures on alcohol at the 6 month follow-up correlated with higher education attainment ($F(1; 67) = 4.44$, $p = .04$) and living with a partner ($F(1; 67) = 4.23$; $p = .04$). Also, significantly lower expenditures at follow-up were observed among participants in the private treatment setting ($F(1; 67) = 4.37$, $p = .04$) compared to those who received treatment at the public psychiatric hospital.

Finally, higher scores regarding frequency of recent alcohol symptoms after six months correlated with older age ($r = .26$; $p = .04$), lower treatment satisfaction ($r = .25$; $p = .04$), being treated at the public treatment center ($F(1; 75) = 5.81$, $p = .02$) and fewer problems with close friends ($F(1; 75) = 5.09$, $p = .03$).

5.4.3 Predictors of frequency of recent heavy drinking, expenditure on own alcohol and alcohol symptoms

The third objective of this study was to determine independent predictors of alcohol addiction severity at the 6 month follow-up. Table 5.4 shows the linear regression models predicting the three indicators of alcohol use severity six months after the baseline evaluation (after controlling for baseline frequency of heavy drinking, expenditure on alcohol and alcohol symptoms, respectively), including the significant variables from the prior bivariate analyses being added stepwise. Below, we discuss the final models for each outcome.

The highest adjusted R^2 (.29) was found for frequency of alcohol symptoms (Model 5), which was predicted by having problems with close friends, treatment setting (i.e., public treatment centre), age and treatment satisfaction. The highest adjusted R^2 score for recent expenditure on alcohol was = .10 (Model 4), and was jointly predicted by three significant variables: living with a partner, treatment setting (i.e., public hospital) and educational level. Recent heavy alcohol use had an adjusted R^2 of .03 on motivation (treatment needs) (Model 2), indicating little of the variance in heavy drinking at follow-up.

Table 5.4

Linear Regression Models predicting alcohol use outcomes at 6 months follow-up

Dependent Variable (measured at 6 months)	Independent (Baseline) variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.				
		B	Std. Error	Beta		Sig.	R ²	R ² Adjust	F (df1; df2)	p
Recent Heavy Alcohol Use Model 1	(Constant)	7.10	2.64		2.69	.01	.00	-.01	.23 (1; 74)	.63
	Recent Heavy Alcohol Use on admission (T0)	-.05	.11	-.06	-.48	.63				
	Model 2	(Constant)	16.15	5.18	3.12	.00	.06	.03	4.07 (1; 73)	<.05
	Recent Heavy Alcohol Use on admission (tT01)	-.02	.11	-.21	-.18	.86				
	Overall treatment perception	.31	.15	.23	-.02	<.05				
Expenditure on own Alcohol Model 1	(Constant)	31,368	8,808		3.56	.00	.00	-.02	.00 (1; 68)	.10
	Expenditure on own Alcohol (T0)	0	0	.00	.01	1.00				
	Model 2	(constant)	-23,559	27,640	-.85	.40	.06	.03	4.37 (1; 67)	.04
	Expenditure on own Alcohol (T0)	0	0	-.05	-.40	.69				
	Treatment Center	35,335	16,899	.25	2.09	.04				
	Model 3	(constant)	-32,536	27,836	-1.17	.25	.1	.06	2.70 (1; 66)	.11
	Expenditure on own Alcohol (T0)	0	0	-.07	-.55	.59				
	Treatment Center	29,699	17,037	.21	1.74	.09				
	Education	28,484	17,327	.20	1.64	.11				
	Model 4	(constant)	-82,089	36,332	-2.26	.03	.15	.10	4.22 (1; 65)	.00
	Expenditure on own Alcohol (T0)	0	0	-.07	-.62	.54				
	Treatment Center	33,268	16,725	.24	1.99	.05				
	Education	22,869	17,138	.16	1.33	.19				
	Marital Status	38,358	18,663	.24	2.06	.04				

Dependent Variable	Independent (Baseline) variables	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.					
(measured at 6 months)		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		Sig.	<i>R</i> ²	<i>R</i> ² <i>Adjust</i>	<i>F</i> (<i>df1</i> ; <i>df2</i>)	<i>p</i>	
Alcohol Symptoms	Model 1	(Constant)	4.74	1.67		2.83	0.01	.12	.11	9.81 (1; 75)	.00
		Alcohol Symptoms (T0)	.31	.10	.34	3.13	0.00				
	Model 2	(Constant)	-4.67	4.31		-1.08	0.28	.18	.16	554 (1; 74)	.02
		Alcohol Symptoms (T0)	.31	.10	.34	3.20	0.00				
		Age	.30	.13	.25	2.35	0.02				
	Model 3	(Constant)	-13.06	5.83		-2.24	0.03	.22	.19	4.36 (1; 73)	.04
		Alcohol Symptoms (T0)	.31	.10	.33	3.22	0.00				
		Age	.10	.12	.25	2.41	0.02				
		Treatment Satisfaction	.37	.18	.22	2.09	0.04				
	Model 4	(Constant)	-18.02	6.28		-2.87	0.01	.26	.22	3.67 (1; 72)	.06
		Alcohol Symptoms (T0)	.21	.11	.23	1.95	0.06				
		Age	.29	.12	.24	2.36	0.02				
		Treatment Satisfaction	.32	.18	.19	1.82	0.07				
		Treatment Center	4.80	2.50	.22	1.97	0.06				
	Model 5	(Constant)	-17.50	6.00		-2.92	0.01	.34	.29	7.87 (1; 71)	.01
		Alcohol Symptoms (T0)	.20	.10	.21	1.93	0.05				
		Age	.25	.12	.21	2.12	0.04				
		Treatment Satisfaction	.35	.17	.19	1.97	0.05				
		Treatment Center	6.01	2.43	.28	2.47	0.02				
		Problems with close friends	-7.56	2.70	-.28	-2.81	0.01				

Note. All models have a significant F change value.

5.5 Discussion

This chapter focused on AUD treatment outcomes and its predictors in two agencies in Kampala to contribute to the emerging evidence for delivering culturally-sensitive interventions that are considered essential for enhancing AUD service delivery in Uganda and other low income countries. Based on this research, it can be affirmed that participation in AUD treatment is followed by reductions in service users' alcohol addiction severity and psychopathology and improvements in QoL. Individual attributes, treatment and social factors emerged as key predictors of recovery.

5.5.1 AUD treatment outcomes in Uganda

From this exploratory study, reduced addiction severity and psychopathology and improved QoL emerged as vital post-treatment features among alcohol service users in Uganda. The majority of treatment outcome literature confirms the impact of treatment on addiction severity (Adamson, Sellman, & Frampton, 2008; Ciraulo, Piechniczek-Buczek, & Iscan, 2003; Simpson & Joe, 2004), and this study was not an exception. However, in the absence of a controlled study design, we cannot directly attribute the changes to the treatment programs. We observed increased alcohol abstinence rates and reductions in alcohol addiction severity (particularly frequency of heavy alcohol use, alcohol expenditures and alcohol-related symptoms). Total abstinence from alcohol is a major program goal in both participating treatment settings and 21% of the respondents in this research reported not to have drunk any alcohol during the 6-month period following their admission. The proportion of research participants that were abstinent from alcohol after treatment, is comparable to the abstinence range (17 to 79%) reported in earlier studies on treatment-seeking alcohol dependent individuals (Charney, Zikos, & Gill, 2010). Still, the majority of study participants was not abstinent after 6 months.

Regarding social functioning, increases in social problems with close friends after treatment can probably be attributed to resistance faced by alcohol using peers. The fact that those with more relational problems with friends reported less alcohol symptoms suggests the importance of breaking up with drinking friends for individuals' recovery process (Bertholet et al., 2010; Best et al., 2016). The persistence of partner problems indicates this as a challenge for individuals in early

recovery and highlights the need to involve the family in the treatment of alcohol dependence, as well as the exploration of alternative social networks (Beattie, 2001). Respondents in this study reported reduced scores on anxiety, depression and externalizing behaviors which confirm earlier research by Joe, Broome, Rowan-Szal, and Simpson (2002) and Millson and colleagues (2004). However, our findings on psychological wellbeing contradict Driessen and colleagues (2001), who found minor increases in depression and no substantial changes in anxiety in the period of six weeks to eight months after three weeks of residential AUD treatment. A point of concern is the reduction in employment levels among respondents after 6 months, emphasising the importance of training in employment skills (job application, etc.) in treatment programs and the need to collaborate with employers of admitted clients so that the long treatment period doesn't result in the termination of their employment. Finally, our study confirms improved QoL as one of the favorable outcomes of AUD treatment. This may not surprise since earlier research also associated abstinence or reduced drinking with improved QoL (Gillet et al., 1991; Rather & Sherman, 1989).

5.5.2 Predictors of early recovery after AUD treatment in Uganda

Predictors of recovery are generally categorised around individual characteristics, treatment processes, nature of alcohol problems and context and social aspects (Simpson & Joe, 2004; Borbor, Adamson, Sellman, & Frampton, 2008; Charney, Zikos, & Gill, 2010).. Age, educational attainment and living with a partner emerged as individual characteristics, while treatment environment and treatment satisfaction were treatment-related features that predicted early recovery of alcohol service users in Uganda. Problems with close friends is a contextual factor associated with early recovery that emerged from this research.

In this study, recovery was measured by reductions in heavy drinking, alcohol symptoms (e.g., craving, work-related problems, preoccupation with use, withdrawal sickness) and expenditure on alcohol. Treatment setting was the only independent predictor of both reduced alcohol symptoms and reduced expenditure on alcohol, as respondents recruited from the private treatment centre eventually registered lower scores on the two recovery aspects than those treated in the public hospital. Our previous study on motivation (Chapter 4) showed that respondents receiving treatment in the psychiatric hospital had lower internal and external motivation scores than their

counterparts in the private setting, with the largest differences for 'Treatment needs'. In this study, 'Treatment needs' emerged as an independent predictor of reductions in heavy alcohol use, emphasising the importance of motivational interventions and the assessment of client needs at the start of treatment. The location of the private centre (in the community) and availability of more psychosocial services and activities than in the remote psychiatric hospital are differences worth investigating as moderators of treatment outcomes in the two treatment settings. Overall treatment satisfaction predicted reductions in alcohol symptoms just as in an earlier study by Marsden and colleagues (2000). Although treatment retention has been attributed a significant role in AUD treatment outcome literature (Adamson, Sellman, & Frampton, 2008; Ciraulo, Piechniczek-Buczek, & Iscan, 2003), this association needs to be further explored in Uganda as we couldn't demonstrate such a relation. It may be that treatment length did not differ enough between study participants, since all respondents stayed at least 30 days in treatment and most of them left treatment after 60 to 90 days. Inclusion of all service users entering treatment may have revealed the role of treatment length, but would have resulted in higher attrition rates.

Regarding individual characteristics, living with a partner and education emerged as predictors of increase in expenditure on alcohol, while age predicted reduction in alcohol symptoms. Higher expenditure among the respondents who lived with a partner was surprising, since living with a partner was associated with higher problem recognition in the earlier study on motivation (chapter four). The general absence of a correlation between living with a partner and recovery aspects contradicts findings by Gilder and colleagues (2008) who suggested higher AUD remission rates among married individuals in an indigenous American community. From our results, it can be concluded that living with a partner helps to get alcohol users into treatment, but as suggested by Ciraulo and colleagues (2003) marital status/living with a partner per se is not enough to support a sober life. Hence, the role of partner support towards recovery deserves more exploration. On the other hand, educational attainment was a crucial factor for internal motivation (see chapter four), and was also associated with early recovery in this study. Overall, educational attainment and age were significant correlates of the recovery parameters, but were weak predictors of treatment outcomes, hence confirming earlier reports by Adamson, Sellman & Frampton (2008) and Charney, Zikos & Gill (2010) who considered both personal characteristics

as poor predictors of recovery. Finally, we confirmed the influence of societal factors (role of close friends) on recovery among Ugandan alcohol users, which was also identified in previous treatment outcome literature (Charney et al, 2010). In chapter four, we found that declining QoL was an important correlate of motivation for treatment. This study findings imply that low (social) QoL elicits additional treatment motivation which is likely to result into better treatment outcomes.

Although only one motivational domain (treatment needs) directly predicted treatment outcomes, some major correlates of internal and external motivation (including marital status, education and treatment setting) were also predictive regarding reduced expenditure on alcohol and alcohol symptoms. We did not find a significant correlation between use of multiple substances and treatment outcome, a widely published finding, possibly because of our selection criteria that recruited users who reported alcohol as their primary addiction. Similarly, Charney and colleagues' (2010) finding of a negative association between psychopathology and drinking status cannot be affirmed by our results, as we did not observe significant correlations regarding these factors. In addition, none of the other widely published aspects of addiction severity such as employment status, years of drinking and treatment history emerged as predictors of early recovery in our sample of Uganda alcohol service users. Finally, although social support did not emerge as a significant moderator of recovery, social problems with close friends proved to be a key predictor of reductions in alcohol-related symptoms after treatment and need to be addressed during treatment. Hence, social problems can predict or impede successful treatment outcomes. The absence of a correlation with well-known predictors such as religion and treatment duration emphasizes the assumption by Adamson, Sellman and Frampton (2008) that outcome predictors are rather inconsistent, depending on the population, methods used and intervention studied. Further research in this area is needed in Uganda and other Sub-Saharan countries to identify factors contributing to treatment effectiveness.

5.5.3 Implications of the study

Addiction severity, psychopathology, QoL and treatment process aspects were previously found to be significant correlates of treatment outcomes and should be assessed while screening potential alcohol service users and planning their treatment in Uganda. Although the primary treatment goal of the study centers is abstinence, the majority of the study participants was in non-abstinent recovery six months after admission. Yet, some studies seem to indicate that particular sub-groups of alcohol dependent persons, i.e., those with stable lifestyles and/or a lower degree of dependence, can manage controlled drinking (Charney et al., 2010). Also, addiction recovery should be regarded as a change process involving improvements on various domains, rather than the mere absence of symptoms (= clinical recovery) (Vanderplasschen, et al, 2013). As recommended by SAMHSA (2010), shifting the focus of recovery management away from discrete episodes of treatment or acute care to long-term and continuing client-centred approaches is more likely to address the low QoL and continued use of alcohol after residential treatment. Besides continuing support to those in abstinence, long-term interventions may help persons in non-abstinent recovery to move closer to abstinence as they regain their productivity and purpose in the society. A major concern arising from this study is the rise in relational problems with close friends after treatment, although problems in this category are associated with lower alcohol symptoms. This seems – together with the high prevalence of relational problems with partners (which correlated with more days of recent heavy drinking) – a threat to recovery and calls for more attention for relational skills, involvement of significant others during individuals' treatment process and the preparation of service users for possible challenging social experiences after leaving the residential treatment facility. Since treatment setting emerged as a major predictor of early recovery, it is necessary to identify the ingredients of (non-)effective treatment programs in Uganda. The significant improvements in psychological wellbeing add evidence to the beneficial effects of AUD treatment beyond reductions in (heavy) drinking. Finally, fewer participants were employed at follow-up indicating the need for vocational training during treatment to teach employment skills and for case management interventions to help clients find a job or training after treatment (Adamson, Sellman, & Frampton, 2008; Hesse, Vanderplasschen, Rapp, Broekaert, & Fridell, 2007).

5.5.4 Strengths, limitations and future research recommendations

To our knowledge, this is the first study to evaluate treatment outcomes in Ugandan alcohol treatment programs and hence offers valuable baseline information for further research. Despite differences in age, employment status and length of treatment between the baseline and follow-up groups, our study was able to retrieve a relatively large number of participants (78%) at the follow up stage. However, this study relied heavily on self-report, despite the risks of inaccurate descriptions of symptoms/behaviours by the respondents who may as well demonstrate a desire to please the interviewers (social desirability). To address the cultural inappropriateness of some ASI-items (Cacciola, Alterman, Habing, & McLellan, 2011), results were analysed at item level and might differ if the analysis was done at the domain level. Also, results regarding age, treatment duration and employment should be interpreted with caution, since the ratio of baseline and follow-up participants on these aspects differed significantly (attrition bias). Additionally, the adjusted R^2 of heavy use of alcohol and that of expenditure were quite low, signifying a weaker influence of the predictors. This does not only indicate the unpredictability of human behaviours, but calls for further research into more influential factors of treatment outcomes in this population. Previous studies on treatment effectiveness have recommended three months of residential treatment as a minimum retention threshold of 'adequate treatment', i.e., the length of stay in treatment needed to achieve statistically significant changes in post-treatment outcomes (Simpson, 2004). Future research, probably with other psychological measures, may consider a controlled study design, extending treatment duration to 90 days, the use of bigger samples and longitudinal approaches (12 to 24 months) to assess long-term treatment outcomes.

5.6 Conclusion

This study found out that early recovery after AUD treatment in Uganda is characterized by a decline in addiction severity and psychopathology and improved QoL for most users. Personal attributes such as age, educational attainment and living with a partner along with treatment setting, treatment satisfaction and social functioning can be important predictors of treatment outcomes that should be given consideration during treatment planning in Uganda. Since the majority of the service users were in non-abstinent recovery, holistic and long-term client-centred support is desirable to accomplish the program goals. More studies using other psychological tools and with more participants also considering longer periods of treatment and follow-up are necessary to further complement the study findings.

Abstract

The goal of this research is to advance knowledge about AUD and its treatment in Uganda. This is in the view that presently, few studies exist in this area and yet alcohol use and its negative consequences are widespread in Uganda and also affect the socio-economic and psychological wellbeing of the populations in the entire Sub-Saharan region. In this final chapter, we present the main findings of this dissertation, highlight the necessary cultural adaptations for AUD treatment in Uganda and discuss some of the most important implications for policy, research and clinical practice. We also address the strengths as well as the limitations of our research and highlight salient recommendations.

6.1 Introduction

This dissertation focused on the unique features of AUD and on challenges and effectiveness of its treatment in Uganda. To achieve this goal, we conducted five interrelated studies. First, we reviewed literature on origins of alcohol misuse and the emerging policy initiatives in the SSA, and studied its consequences as well as treatment responses in Uganda (Chapter 1). Second, we explored similarities and differences in perspectives on alcohol addiction and facilitating factors between Uganda and Belgium to provide insights on differential prevention and diagnostic/therapeutic strategies for AUD in Uganda (Chapter 2). In the third study, we investigated treatment challenges for alcohol service users in Kampala to identify factors likely to promote/hinder treatment participation and retention (Chapter 3). Correlates of motivation for treatment among service users were then explored to determine the factors that are likely to influence treatment participation and keep users in treatment (Chapter 4). Finally, we explored characteristics and predictors of early recovery among alcohol service users (Chapter 5) to benchmark AUD treatment outcomes and its possible mediators.

This final chapter (Chapter 6) presents an integrated discussion of the main findings from the separate studies, including implications and limitations of this research. In the discussion, AUD prevention, treatment and recovery aspects that relate to cultural sensitivity in Uganda are highlighted to contribute to the debate regarding the implementation of effective interventions in Uganda and other Sub-Saharan countries.

6.2 Main findings

6.2.1 Alcohol misuse in Sub-Saharan Africa (SSA)

6.2.1.1 *Origins of alcohol misuse in SSA*

We started this research by exploring the evolution of alcohol-related problems in Uganda. To understand the origins of alcohol problems in Uganda, we reviewed literature on the trend of alcohol misuse in the SSA, a region of 46 African countries that are part of or below the Saharan dessert and sharing similar social and economic features (United Nations Development Programme, 2018). In our introductory literature review (Chapter 1), a rise in alcohol-related problems was noted during colonial times, which continued in the post-colonial era (from the

1950s onwards) until today. We discovered that in spite of the various uses of alcohol, recent studies (e.g., Dumbili (2014), Swahn (2013), WHO (2014)) depicted high rates of intoxication, rising trends of underage drinking and wide prevalence of unregulated alcohol as key features of alcohol use in the SSA. The increases in alcohol-related problems were attributed to changes in alcohol production and consumption patterns. In precolonial times, alcohol was said to be fermented beers and wines (2-4%), produced in particular seasons for respected men who drunk in their homesteads emphasizing the ritual rather than intoxication (Adelekan, 2008; Heap, 2005, 2011). In the 19th century, deterioration of alcohol-related problems coincided with the colonial period and commercialization of alcohol (Adelekan, 2008; Pan, 1975), which was accompanied by importation of spirits and new distillation techniques. These developments, combined with the increased demand for alcohol by industrial contract laborers who adopted the colonial lifestyle led to the availability of bigger quantities and higher potency alcohol of up to 50% alcohol by volume (Adelekan, 2008; Heap, 2005; Pan, 1975). To date, the consumption of high potency alcohol is an important feature of alcohol use in the region, with 14% of all alcohol consumed being wines and spirits (WHO, 2014).

Alcohol-related problems further increased in the post-colonial era, as the newly appointed governments were mainly driven by economic motives and expanded the industrial production instead of controlling alcohol use (Dumbili, 2014). The alcohol industry concentrated on increasing the availability and affordability of alcohol to the African population by adopting robust marketing strategies and cheap production techniques such as the use of local materials and packaging in sachets (Jernigan & Obot, 2006; Swahn, 2013). The widening availability did not only lead to increased consumption in terms of the number of regular drinkers and the amount consumed, but also transformed the purpose of drinking into a leisure activity (Dumbili, 2014). Alcohol began to be shared by broader sections of the population, eroding the traditional culture of restricted access based on gender, status and age, and people started drinking all the year round (Willis, 2006). On the other side, production of informal alcohol increased with the increasing demand and until now constitutes the biggest proportion of consumed alcohol on the African continent (WHO, 2014). Overall, alcohol production and consumption have rapidly changed over the last two

decades, as illustrated in Cameroon where the production and consumption are estimated to have grown by 400% in the last 20 years (Willis, 2006).

6.2.1.2 Policy responses to alcohol misuse in SSA

We observed that, in pre-colonial times, alcohol consumption was informally controlled at family level and influenced by customary practices. Public drunkenness was considered shameful and in some cases even punishable (Odejide, 1989, 2006; Pan, 1975). Although traditional African societies had unwritten policies, the demand for formal regulations emerged in the mid of the 19th century when the growing negative consequences of alcohol misuse became apparent. From the start, however, commercial interests always subdued public health concerns (Heap, 2011), leading to greater emphasis on pricing and taxation (Odejide, 2006) than on information and prevention. Although WHO suggests comprehensive alcohol control policies as priorities for tackling alcohol-related harm in contemporary Africa, enactment is sluggish and almost non-existent in most SSA countries (WHO, 2010b, 2010c). According to WHO (2010a), the proportion of African countries with a substance abuse policy is the lowest globally (32.6%) and only 2.3% of the SSA countries have alcohol treatment policies (WHO, 2010a). Due to the interference of economic interests in the legislation process, the general lack of overall public health objectives and low government commitment, written alcohol policies have not yielded the desired reduction in alcohol consumption and related negative consequences in the few countries where they exist (Achuka, 2014; Bakke, 2010; Dumbili, 2014). As in many other countries, most governments in SSA struggle with a conflict of interest, since they have economic interests vested in the business that they are supposed to regulate. The reluctance of governments to control alcohol production and sale has given way to self-regulation, a concept strongly boosted by the alcohol industry (Dumbili, 2014), resulting in the neglect of public health issues as industries consistently defy their own guidelines (Jernigan, 2014). Moreover, the alcohol industry discourages public health-oriented policies through donations, lobbying, threats, bribery and active opposition to public health issues (Jernigan, 2014).

6.2.1.3 AUD in Uganda

Uganda is an East-African country with a mean age of 15.7 years, 43 different ethnic groups/languages and a GDP of \$672.81/capita, of which 75% is jointly contributed by the agricultural and service sectors (World Bank, 2017). The number of inhabitants with AUDs is estimated to be around 9.8% of the total population (Kabwama et al., 2016), although hospital-based studies in central Uganda show considerably higher prevalence rates among HIV/AIDS service users (47%) and service users in PHCs (17%) (Hahn et al., 2014; Kalema, 2012; Kullgren et al., 2009). Documented health consequences related to alcohol misuse include the spread of HIV/AIDS (Uganda AIDS Commission, 2007), various somatic and psychiatric disorders, physical disabilities and high mortality rates (Affinnih, 2002; Andrews et al., 1999; Swahn, 2013), family breakdown, non-communicable diseases, poverty, violence and crime (Swahn, 2013; Tumwesigye & Kasirye, 2005). Cases of instant disability and mortality due to the consumption of contaminated alcohol occur frequently, because of the consumption of adulterated alcohol. According to the WHO (2014), 5% of the mortality is directly attributed to alcohol.

To identify distinct features of AUD in Uganda, we conducted a comparative study with a high income country, Belgium (Chapter 2). From 60 qualitative interviews among alcohol service users and treatment providers in both countries, alcohol addiction was associated with frequency of consumption, volumes consumed and related negative consequences. Further, we found that seeking alcohol potency is a major reason why problem users in both countries switch to cheaper spirits, although in Uganda some even manipulate alcohol to make it stronger or rather make their own alcohol in face of depleted financial resources. This study (Chapter 2) also confirmed some divergent perceptions of addiction as documented in prior studies. For instance, unlike the widespread notion in Western European countries where addiction is perceived as a disease (Egerer 2013; Gual et al., 2016; Klingemann, Klingemann, & Moskalewicz, 2017), in Uganda addiction was primarily regarded by the respondents as a moral or criminal issue and was associated to lower social class.

The interviews further showed that the line between facilitating factors for alcohol use and addiction/AUD is thin and ambiguous, implying that prevention measures should primarily address aspects of use. As in earlier research, e.g., by Tumwesigye (2005), Hibell and colleagues (2012),

and Sznitman and Romer (2014), the role of social and cultural habits, promotional activities by the alcohol industry, early exposure to alcohol, peer influence and social/economic hardship was acknowledged by Belgian as well as Ugandan respondents. However, the omnipresence of highly toxic formal and informal, alcohol manufacturing and selling points in homesteads, absence of restrictions and religious influences were exclusive to the Ugandan situation (Chapter 1 & 2), and were also highlighted in earlier alcohol studies in other African countries (Dumbili, 2014; Lunn, 2009; WHO, 2013, 2014). On the other hand, affordability and insufficient coping skills in adversity stand out as major facilitators for alcohol addiction in Belgium and were as well reported by several other European researchers (Centre de Recherche et d'Information des Consommateurs, 2011; Niemz, Griffiths, & Banyard, 2005; Niemz, Griffiths, Chen, & Nath, 2016).

Based on the interviews with service providers and service users, some limitations were deduced regarding the way addiction is perceived in both societies. The conceptualization of addiction as a disease is criticized for placing responsibility on the individual and for its controversial incurable claims and denting hope for full recovery (Klingemann, Klingemann, & Moskalewicz, 2017). Yet, moralizing and criminalizing addiction may hamper the role of professional treatment. Therefore, it was not surprising that stigma and discrimination towards alcohol were prevalent in both countries (Probst et al., 2015). Also, associating addiction only with severe negative consequences is likely to inhibit the detection of early problematic use that is otherwise characterized by impaired cognitive control, impulsivity, and high reward sensitivity (Iacono, Malone, & McGue, 2008).

6.2.2 Treatment of AUD in Uganda

Hospitals and outpatient health centres are the first and most frequently contacted places for AUD treatment in Uganda, but they do not offer more than emergency care and detoxification. One public and a few private specialised centres are available in the capital city of Kampala to treat AUDs. These settings offer comparable residential treatment programs, based on the Minnesota model which combines the 12-steps program with pharmacological and psychosocial approaches and emphasizes the importance of abstinence from all mood-altering substances, but differ in terms of infrastructural and human resources. The psychiatric hospital emphasises a medical

approach, but like in other public health services workers reported huge human resource limitations, especially in its psychological programs. On the other hand, the private treatment centres which are rather established within the communities have more psychosocial professionals and corresponding activities, but have obvious infrastructure-based limitations as they generally exist in houses initially constructed for residential purposes.

Both services charge treatment fees (approx. 14 USD/day), but the public facility offers a range of free services for most of the service users. Until our study, there was no documented research on the cultural appropriateness or effectiveness of current AUD treatment facilities in Uganda (Chapter 1 & 3). Both facilities are new in Uganda, having been established within the last 10 years although the psychiatric hospital has existed since 1955. Based on the sample in our study, it appears that service users are between 17 and 53 years old, with a mean age of 31.6 years ($SD = 8.82$). The majority of service users are male 95%, affluent (68% are employed and 58% attended college/university education). Respondents reported an average of 8 years ($SD = 6.63$) of heavy alcohol use at treatment entry and 61% of them were treated previously for AUD. Most alcohol service users (60%) also used other drugs than alcohol. To develop more culturally appropriate AUD treatment in Uganda, services should be better tailored to meet the needs and interests of current users and to explore reasons that keep alcohol users from using treatment services, a population not represented in this study.

6.2.2.1 Factors promoting and impeding treatment participation

This research explored factors that are likely to influence treatment engagement and retention in Uganda. From the qualitative study among 20 service providers and 10 male users sampled from two treatment agencies in Kampala, we found closely interconnected treatment limitations ranging from negative societal attitudes to institutional/service-based limitations and more personal challenges (Chapter 3). The challenges identified in our qualitative study can be traced in earlier literature on mental health service provision in SSA (Kigozi et al., 2010 Massachusetts General Hospital, 2015 Ebigo, Elekwachi, & Nweze, 2012) and these were further explored in the quantitative studies (Chapter 4 & 5).

Societal barriers: Positive societal attitudes towards alcohol and its wide availability and acceptability are discussed above and were blamed for promoting heavy use in the general population and facilitating relapse among those in recovery. Cultural issues such as language barriers and religious beliefs/practices that condone/demonize alcohol use promote negative beliefs about treatment, hence compounding stigma in a population with not so much awareness of AUD or its treatment (Chapter 2 & 3). Low treatment utilization among women is a particular feature of Ugandan alcohol treatment, which was illustrated by an overall lack of female participants in this study and is attributed to cultural taboo and stigma, particularly among women who are unemployed, impoverished, and/or uneducated (Ebigbo et al., 2012; Myers, 2011).

Institutional bottlenecks: At institutional level, an overall insufficiency of available services was denoted by limited logistical, human and infrastructural resources and a 'foreign' treatment philosophy (Chapter 3). Conceptualization of alcoholism as an 'incurable disease' by the predominant Minnesota model appears to be inconsistent with the local culture, as numerous people believe that persistent illness is due to improper treatment or evil influence, which may explain the popularity of traditional and spiritual healers. According to the MoH (2010), 60% of the population seeks general health care from traditional healers, yet their approaches are not documented. Due to the limitedness of space in the psychiatric hospital, different types of clients are treated together, including persons with various types of psychiatric disorders. In both public and private settings, volunteers and interns are assigned professional positions hence moderating treatment norms and expectations. Overall, public and private treatment centers differed in terms of challenges, with more human resource limitations experienced in the public hospital and more infrastructural limitations faced in the private setting.

Client-related factors: Treatment resistance among service users and lack of problem awareness are individual challenges that are further compounded by offering public AUD treatment services in psychiatric facilities. Denial is well documented as a key reason why users who meet the DSM-5 criteria for AUD do not seek/accept treatment. Similarly, a recent study in Italy, Germany, Hungary, Latvia, Poland and Spain indicated that 'lack of

problem awareness' accounted for 55% of the reasons on failure to enter treatment (Probst et al., 2015).

Treatment challenges normally occur at more than one level (Rapp et al., 2006; Schuler et al., 2015). As negative societal beliefs were widespread, awareness raising about the beneficial effects of treatment is necessary particularly to extend treatment to the currently neglected groups such as women, individuals with low educational attainment and users in rural areas. The institutional shortages in AUD services in Uganda are a characteristic feature of public mental health care facilities in the entire Sub-Saharan region, where other studies have also shown a great shortage (Kigozi et al., 2010; Myers et al., 2012). Low motivation among Ugandan alcohol users may not surprise, since risk awareness levels are quite low and denial is regarded as an inherent aspect of addiction recovery and behavioral change processes (e.g., Cunningham, Blomqvist, & Cordingley, 2007; Rinn, Desai, Rosenblatt, & Gastfriend, 2002). Moreover, it became apparent that treatment in Uganda is primarily accessible to highly educated and affluent citizens, two variables that have been associated in previous research with lower motivation for treatment (Schuler et al., 2015).

6.2.2.2 Factors associated with motivation for treatment among service users with AUD

Motivation is known to be an important factor for initiating and maintaining behavioral change (Adamson, Sellman, & Frampton, 2008; Bilic et al., 2014; Groshkova, 2009). As suggested by the literature and qualitative interviews, we observed low levels of motivation among AUD service users in Uganda, in particular regarding 'desire for change'. This challenge was even more observable among respondents from the psychiatric hospital. It appeared that addiction severity and treatment environment were the most important correlates of both internal and external motivation. Negative consequences such as higher psychological symptoms, deterioration in environmental and physical QoL, and recent heavy drinking boosted respondents' treatment motivation and subsequent treatment participation. On the other hand, lower motivation was linked to higher educational attainment, lack of support from a partner and receiving treatment in the psychiatric hospital. In addition, we found that higher internal motivation was associated with having previous treatment experience(s), illustrating that motivation is a cumulative and gradual process needing ongoing monitoring and continuous support. Significant differences in

motivation levels were found between the two treatment centers, probably due to differences in approach and staff composition. More psycho-social workers and psychosocial activities are likely to contribute to 'relatedness' (as could be explained by the Self Determination Theory) between service users, their families and staff and could account for higher motivational levels in the private treatment center. Overall, the findings argue for integrating psychosocial elements and motivation enhancement techniques in the treatment programs, in particular in the psychiatric hospital. To be culturally sensitive, AUD treatment in both settings should further consider the involvement of partners and providing psycho-education to them and families to raise awareness about alcohol problems and to inspire the recovery process. As the majority of the service users did not have a partner, public awareness raising and outreach activities (equipping communities and significant others with accurate information on features and prognoses of addiction) are necessary to create a supportive network for recovery. Our findings of the positive association between depression and deterioration of QoL on increased treatment motivation confirmed earlier assertions (e.g., Bilici, 2014; Charney, Zikos, & Gill, 2010; Groshkova, 2009) that have associated increased motivation with undesirable and deteriorating life conditions ('hit rock bottom').

6.2.2.3 AUD treatment outcomes

In the absence of a control group, findings of our follow-up study (i.e., post-treatment characteristics) cannot unequivocally be attributed to the treatment processes. Nevertheless, the regression analyses in chapter 5 provide insight in the extent to which the identified bivariate correlates contributed to early recovery.

➤ *Features of early recovery*

From a quantitative study among 100 study participants sampled from the alcohol and drug unit of the National Mental Referral Hospital and a private (non-governmental organization) alcohol treatment center in Kampala reduced addiction severity and psychopathology and improved QoL emerged as vital features of early recovery six months after initiating treatment.

- o We observed a significant reduction in the number of daily drinkers (from 59% to 8%), the number of days of heavy drinking (from an average of 21 to 2 days) and in monthly

expenditures on own alcohol (from 203,430 to 36,430 Ugandan shillings), and a significant increase in the number of alcohol abstainers (from 2 to 21%) six months after AUD treatment. Although the prevalence of partner problems remained high (64 and 65% at baseline and follow-up respectively), positive changes were seen in the relationships with adult relatives and close friends. The number of participants reporting social problems with adult relatives (e.g., parents) decreased from 59 to 32%. Social relations with close friends seem to have deteriorated after treatment, as the number of participants with contacts with close friends reduced from 68 to 18% and an increased number reported relationship problems in this category (from 18 to 44%). The worsening social relationships with close friends is not surprising since the long duration of treatment and resulting recovery consequently leads to breaking ties with old (drinking peers). Also, employment levels after treatment fell from 87 to 56% possibly due to loss of job prospects resulting from long long absence from work during the treatment period.

The majority of treatment outcome literature confirms that treatment helps to reduce addiction severity (Adamson, Sellman, & Frampton, 2008; Ciraulo, Piechniczek-Buczek, & Iscan, 2003; Simpson & Joe, 2004). Although increases in alcohol abstinence rates and reductions in alcohol addiction severity were noticeable, most of the study participants were in non-abstinent recovery. No significant reductions in alcohol symptoms were observed at follow-up, which could be attributed to the wide scope of this question, as responses on craving, withdrawal symptoms, school/job-related and legal problems were all grouped under one dichotomised (Yes/No) response category. Yet, clients in recovery are known to experience craving and legal challenges even when they have stopped substance use. Low abstinence rates are attributable to the numerous treatment challenges identified and the lack of aftercare, but also to the specific nature of the sample. While the majority of the recovery literature reports about service users who participated voluntarily in AUD treatment (Charney, Zikos, & Gill 2010), most of the service users in Uganda are compelled by their relatives and are brought to the treatment centres by the police. As noted above, the sample consists of highly educated users mostly living without a partner, a group also found to have susceptible to higher relapse rates (McKay & Weis, 2001; Schuler et al., 2015). The high prevalence of

social problems (with partner and close friends) six months after treatment coupled with declining employment prospects after treatment may pose a threat to recovery (Beattie, 2001) and should be addressed by treatment managers. However, problems with friends among the participants may not necessarily be a negative indicator, as less contact with their old (drinking) friends or quarrels can be a consequence of their refusal to continue drinking. This is congruent with the recovery literature, which states that recovery is predicted by the increasing involvement in non-drinking social networks (Best et al, 2015).

- Significant reductions were also noted regarding the mean values of all three measured aspects of psychopathology, i.e., anxiety, depression and externalizing behavior. Although psychological services are integrated in both treatment programs, we cannot directly attribute reduced psychopathology to the AUD treatment in the absence of a control group. Other factors may explain this observation (e.g., reduced drinking, less stress, improved physical well-being). According to Lapham and colleagues (1995), improvement in service users' psychological wellbeing can be a natural evolution, if they entered treatment in a very bad condition and would have improved even without a treatment intervention. Moreover, reductions in alcohol/drug use can explain reductions in alcohol/drug induced psychopathology (Vanderplaschen, 2004).
- Importantly and not studied before in SSA, we found improvements on all domains of alcohol service users' QoL six months after treatment, including a significant increase in overall quality of life and on the psychological, social, physical and environmental domains of the WHOQOL-Bref. Improvements in participants' QoL are likely to be attributed to a decline in the amount and frequency of alcohol use after treatment. QoL is increasingly recognized as an important predictor and outcome indicator of mental health recovery, as it evaluates various aspects of an individual's wellbeing (Colpaert, De Maeyer, Broekaert, & Vanderplasschen, 2013; Millson et al., 2004). Our study confirms improved QoL as one of the favorable outcomes of AUD treatment in Uganda. This may not surprise, since earlier research also associated abstinence or reduced drinking with improved QoL (Gillet et al., 1991; Rather & Sherman, 1989). As demonstrated in our study, QoL provides an additional, patient-reported view on AUD

treatment outcomes, which is often not included in AUD and SUD research, especially not in Africa.

➤ *Predictors of early recovery*

Surprisingly, treatment in the private facility was the only significant predictor of reductions in both alcohol expenditures and reductions in alcohol symptoms. While problems with close friends, higher treatment satisfaction and being younger predicted reduced alcohol symptoms, high awareness of treatment needs (internal motivation) was associated with reduced frequency of heavy alcohol use. On the other hand, being more educated and living with a partner, predicted expenditures on alcohol six months after treatment initiation.

Differences in treatment services are well-known predictors of treatment effectiveness (Adamson, Sellman, & Frampton, 2008; Ciraulo, Piechniczek-Buczek, & Iscan, 2003) and seem to play a significant role in motivating clients for treatment and affecting treatment outcomes in Uganda, as was observed in the quantitative studies (chapter 4 & 5). In chapter four, treatment needs accounted for the biggest difference between the two sampled treatment centers. Yet, the same domain appeared as a significant predictor of reduced drinking intensity, thus explaining the divergence in treatment outcome between the public and private treatment centre and emphasizing the key role of motivation for treatment towards recovery. The mixed contribution of social problems and the unclear role of marital status (living with a partner) towards recovery calls for keen attention on the unique role that social networks play depending on the individual. In this sample, relations with peers seem to become worse as one progresses towards recovery, while living with a partner and having problems with a partner rather predict absence of early recovery. Hence, social problems can predict or impede recovery. Moreover, age of service users and degree of treatment satisfaction proved to be additional determinants of treatment outcomes among this clinical sample.

6.3 Study implications

Given the high prevalence of alcohol-related problems in low-income countries and the multi-dimensional nature of the identified challenges to treatment participation and effectiveness, measures and interventions at different levels are needed. In every chapter, we addressed specific clinical, policy, research and theoretical implications of the separate studies. Here, we present overall implications distilled from our research and recommendations for more culturally sensitive, effective strategies to address the emerging alcohol use problems in Uganda.

Policy: Findings on similarities and differences between Uganda and Belgium on the perception of AUD calls for information sharing and exchange of practitioners between countries, but also emphasize the need for context-specific interventions. For instance, underage drinking was found in both Uganda and Belgium, but it is also a known global concern as it is a risk factor for alcohol and other substance use disorders and mental health problems in general (Fernández et al., 2017). Policy and legal interventions have been found to raise awareness of problems related to substance use at the population level and may contribute to the development of an intervention spectrum from primary prevention to intensive, long-term treatment (Bilici, 2014; Mrazek & Haggerty, 1994), which are all necessary to address alcohol use problems. In Uganda, the young population, societal acceptance, cultural habits and the alcohol industry influence current and future drinking behaviors to a large extent. Consequently, comprehensive alcohol policies – free from the influence of Big Alcohol - are necessary to delay the onset of alcohol use, to encourage reductions in the frequency of drinking among already established drinkers, to control the production and sale of alcohol and to reduce alcohol-related harm, as has been documented in other countries (Babor et al., 2010; Fernández et al., 2017).

Prevention: The legal drinking age in Uganda is 18 years, but all service users started to drink long before that age, indicating more attention for underage drinking concerns and enforcement of the legal drinking age. Enhancement of young persons' capabilities for both positive peer relationships and increasing their stress management skills are global concerns (Rukundo, Kibanja, & Steffens, 2017) that have been found to be effective measures to delay alcohol use initiation (Fernández et al., 2017). Having close friendships and joining pro-social networks buffer against drinking

intentions and alcohol use (Birhanu et al., 2014; Lee et al., 2015). It is therefore important to provide general prevention in educational institutions and to include social skills training in school curriculums (Suneel, 2015; Urwin & McNaney, 2015). Several respondents associated alcohol addiction with emotional distress, which argues for measures to protect young people against extreme psychological and socio-economic pressures and offering alternative resources to complement the traditional psycho-social/recreational support. Even for the general population, education and prevention programs are necessary to increase awareness about addiction and to reduce related stigmatization.

Clinical implications: Formal AUD treatment is still new and scarce in Uganda and although our study on post-treatment benefits shows encouraging results, numerous changes are necessary to boost treatment outcomes. Since the majority of AUD clients start treatment in general health facilities, equipping health workers in general hospitals and primary health centres with knowledge on screening for alcohol addiction and offering brief interventions can improve (early) detection of AUDs and support appropriate referral of these problems. For instance, specialist training (e.g., counseling and support skills, motivational interventions) is essential to empower primary health workers with skills that are likely to reduce treatment resistance and to motivate persons with alcohol problems to seek AUD treatment (WHO, 2010). To increase treatment participation, more outpatient and outreach activities should be included into available AUD treatment programs. It would also be innovative to involve experts by experience (i.e., recovered alcohol users) in alcohol treatment and prevention. As most of the clinical and research tools are generic and were developed elsewhere, it is important to develop and/or adapt culturally sensitive assessment tools. For instance, our finding that problem users manipulate alcoholic beverages/make own alcohol to sustain their habit can be adopted as one of the core characteristics of AUD at treatment entry in Uganda. The various correlates of motivation for treatment and the low desire for change scores found in this sample urge for comprehensive motivational enhancement approaches, while paying attention to the clients' unique needs and circumstances (Groshkova, 2009).

Treatment environment, addiction severity, personal attributes and social functioning are documented aspects of motivation for treatment, as well as key predictors of AUD treatment

outcomes and our study asserted their role also in a low income setting. These factors alongside with treatment satisfaction (a predictor of successful treatment outcomes) and other moderators of motivation for treatment such as psychological wellbeing and QoL could be considered for individual treatment planning. Given the importance of both private and public services in alcohol treatment in Uganda (USAID, 2005), better collaboration between both sectors could promote sharing of good practices, increase available resources and enhance systematic planning of AUD interventions at various levels (Center for Substance Abuse Treatment, 2000; Pedersen et al., 2015). For instance, relatedness is assumed to be an important factor affecting treatment retention and outcomes (see Self Determination Theory (SDT)) and appeared to be an important differential feature of treatment in the private and public facility. Higher treatment motivation and better treatment outcomes in the private center could therefore be a starting point to improve treatment in the public psychiatric hospital. Since both agencies have glaring logistic and manpower limitations, quality of service delivery can be improved through additional logistic and infrastructural resources and by recruiting more allied health workers. The fact that previous treatment experiences appeared to be a significant indicator of internal motivation indicates that addiction should rather be regarded as a chronic disorder requiring continuous care and support rather than acute, 'one shot' interventions (McLellan, 2002).

Living with a partner (marital status), partner support and relations with close friends and relatives were essential moderators, not only for motivation but also for treatment outcomes and hence their management should be an important component of the treatment curriculum (Sheldon et al., 2003). More research is however necessary into the specific treatment needs of highly educated service users, as they were less likely to benefit from the current treatment programs. Finally, our study also proved that negative alcohol consequences such as depressive symptoms and deteriorating QoL can be used to enhance users' motivation for treatment, although they do not necessarily predict treatment outcomes. As far as enhancement of treatment outcomes is concerned, the fact that younger service users are more likely to benefit from treatment offers hope and optimism regarding the effectiveness of treatment and intervening early in the addiction process, since countries like Uganda are dominated by a relatively young population. Treatment satisfaction was the main predictor of reduced heavy drinking at follow-up, which calls for the

consideration of clients' interests and preferences as key ingredients to a successful treatment process, as recommended earlier in the addiction treatment literature.

Research: Further research is needed to complement our findings, since this study found few previous scientific attempts to scrutinize AUD treatment in developing countries. Research is necessary to identify factors that hinder accessibility to formal treatment and into other (informal) treatment modalities, such as treatment that is provided by traditional and spiritual healers as these are consulted by the majority of the population. Although religion is a significant aspect of the Ugandan culture and a well-known risk and protective factor for alcohol use (Kalema, Vanderplasschen, Vindevogel, & Derluyn, 2016), more research regarding its role on treatment is desirable. The association between religion and substance use has often been debated (Miller, 1998; Chitwood, Weiss, Leukefeld, 2008). There is increasing evidence that religion and spirituality are highly resourceful, not only for addiction recovery but also for alcohol and drug prevention (Walton-Moss, Ray, Woodruff, 2013; Morjarja & Orford, 2002), as most religions prohibit the use of alcohol and illicit drugs. Nevertheless, some religious traditions are assumed to promote alcohol consumption (Kagimu et al., 2012; Tumwesigye et al., 2013) and religion may be a barrier in searching support for alcohol-related problems, as addiction is highly stigmatized and people with AUD are regarded as outcasts by some religious communities (Kafuko & Bukuluki, 2008). As such, religion can cut as a double-edged sword in alcohol demand reduction and its role in developing countries should be further probed. Treatment environment was a significant predictor of treatment outcomes, but besides higher initial motivation for treatment and more psychosocial components and closer contacts with service providers in the private treatment centre, additional research is necessary to confirm these findings and their justifications. Further research, including additional/different instruments, is also needed to look into supplementary factors likely to influence AUD treatment motivation and outcomes in Uganda, since our findings resulted in relatively few and modest determinants of motivation for treatment and treatment outcomes.

Theoretical implications: Due to the explorative nature of our study, we used several models and established protocols to investigate specific research questions. In particular, the Capability Opportunity Motivation – Behaviour (COM-B) and Diagnostic Statistical Manual-V were fundamental in examining perceived causes and symptoms of alcohol addiction, while the Texas

Christian University treatment motivation model was central in exploring motivational dimensions among AUD treatment users in Uganda. While the COM-B model offered an overarching framework for identification of potential causes of AUD, contextual and culture specific adaptations were deemed necessary to optimize the application of DSM-V and the TCU treatment protocols in Uganda. A potential contribution of this research is the recommendation to include items regarding making/manipulating own alcohol and the role of spiritual aspects in the assessment of alcohol problems in low income settings. Treatment needs and treatment environment emerged as key determinants of treatment outcomes in our sample and should be considered, while designing theoretical frameworks for AUD treatment programs in Uganda. Finally, the Self Determination theory (SDT), which explains the influence of agency and the social environment on personal behavior, appeared to be an appropriate framework for clarifying differences in motivation levels among AUD service users and for enhancing recovery. The SDT provides a promising theoretical concept that can be studied in Uganda and other developing countries for its potential in building culturally sensitive and effective AUD treatment programs. Above all, this study amplifies the need to broaden the scope of recovery paradigm beyond clinical outcomes to broader aspects of personal recovery including the way AUD service users are interreintegrated back in to the society.

6.4 Strengths and limitations of this research

To our knowledge, this is the first study to explore AUD treatment modalities in Uganda and hence it offers valuable baseline information for clinical practice and further research. The research protocol was approved by the Ethical Commission of the Faculty of Psychology and Educational Sciences at Ghent University (2014/11) and the Ugandan National Council of Science and Technology (SS3511). This study combined both qualitative and quantitative methods which enabled a broad and in-depth exploration of the subject. Despite the cultural inappropriateness of some scales and items, the quantitative instruments used in this study have been applied in other studies and were tested for reliability and validity, which makes our study findings comparable to those from other settings. Since this was an explorative study, the use of various instruments enabled us to formulate additional hypotheses and to triangulate our findings, based on various perspectives/methods.

However, some limitations need to be acknowledged. First, although this research is based on and influenced by the situation in SSA, the majority of references are biased towards literature from high-income countries given its wider prevalence while literature from low-income countries is scanty. None of our literature reviews was systematic and hence we could have missed out on some vital information. Second, respondents in the qualitative study were selected by the management of the participating facilities, which may have led to a selection bias, as service providers could choose to select individuals who were most eloquent or those likely to report positively about treatment and service provision. Moreover, only half of those in treatment participated in the quantitative study, as the rest were not deemed eligible. Also, the research participants did not answer the interview questions in their native language, hindering communication and probably missing out on some useful information. Third, our samples were limited to residential treatment facilities, excluding outpatient and other community-based services with other treatment philosophies. As only 20 (highly educated) service users were interviewed in the qualitative study, the range of perspectives and experiences on treatment challenges among service users was limited. Fourth, for the comparative study, socio-demographic differences can account for the disparity in views of respondents from Belgium and Uganda. Yet, variations noted could reflect policies, media representations and institutional traditions, and not necessarily societal views. Fifth, measurements of psychopathology with the Hopkins Symptoms Checklist–37 for Adolescents may not be completely reliable, as the instrument was initially designed for use in adolescent populations and relies on an old version of the DSM (DSM-IV). To address the cultural inappropriateness of some ASI-items (Cacciola, Alterman, Habing, & McLellan, 2011), results were analysed at item-level and might differ if the analysis was done at the domain-level. Additionally, the reliability scores for several items such as pressure for treatment, treatment perception and physical QoL was quite weak, as well as some of the adjusted R^2 outcomes of the regression analyses, indicating weaker relationships between the studied variables. Finally, results on employment from the longitudinal study should be interpreted with caution, since the employment ratio at baseline and follow-up differed significantly.

It is recommended to include a bigger and more diverse sample in future research, including more females and service users from lower socio-economic status groups. Moreover, longer follow-up periods i.e., 12 – 18 months, involving persons who dropped out of treatment or who were awaiting treatment and/or did not seek treatment at all would provide complementary perspectives regarding treatment challenges and recovery perspectives in low income countries. Lastly, a controlled design to facilitate comparison of outcomes between different types of interventions may provide further insights into AUD treatment outcomes in Uganda. In spite of these limitations, the evidence discussed in the current dissertation provides baseline information on AUD treatment in Uganda and offers insights on the management of SUDs in low-income countries and to make these interventions more culturally sensitive and to increase their effectiveness.

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English Summary

Problem statement and rationale for the study

Alcohol is an important feature in Africa, but is increasingly associated with negative consequences in the Sub-Saharan region (Adelekan, 2008; WHO, 2014). Recent studies marked Uganda as a country with the highest rate of alcohol-related burden, globally (Graham et al., 2011). In Uganda, prevalence of alcohol use disorder (AUD) is estimated at 9.8% (Kabwama et al., 2016) and some documented consequences to alcohol misuse include the spread of HIV/AIDS (Uganda AIDS Commission, 2007), various somatic and psychiatric disorders, physical disabilities (Affinnih, 2002), family breakdown, non-communicable diseases, poverty, violence, and crime (Tumwesigye & Kasirye, 2005). According to WHO (2014), 5% of the mortality is directly attributed to alcohol. However, supply and demand reduction strategies for alcohol use are hardly available in Uganda. The goal of this research is to advance knowledge about AUD and its treatment in Uganda, as a case study of the situation in Sub-Saharan Africa (SSA).

Methods

This dissertation focused on the unique features of AUD and on challenges and outcomes of AUD treatment in Uganda. To achieve this goal, we conducted five interrelated studies. First and foremost, we reviewed literature regarding available evidence on alcohol (mis)use and control strategies in the SSA. To identify distinct features of AUD in Uganda, we conducted 60 in-depth qualitative interviews (40 with service providers and 20 service users) in four alcohol treatment centres (two in Uganda and two in Belgium), comparing perspectives of alcohol addiction and its facilitating factors between a low and high-income country. In the second qualitative study, we investigated challenges regarding AUD treatment in Uganda based on 30 in-depth, qualitative interviews with 20 service providers and 10 male service users, who were recruited at one public and one private alcohol treatment center in the Ugandan capital city, Kampala. Both qualitative interviews were transcribed and analysed using NVivo software.

We then used quantitative methods to explore treatment motivation and outcome predictors among alcohol service users in Uganda. Motivation for treatment was measured among 100

individuals upon entering treatment for AUD, using the Texas Christian University Treatment needs and Motivation scale (TCU-Motform). Correlates of motivation were measured with the World Health Organisation Quality of Life-scale (WHOQoL-BREF), Addiction Severity Index-6 (ASI-6) and the Hopkins Symptoms Check List-37 for Adolescents (HSCL-37A), assessing respondents' Quality of Life (QoL), addiction severity, and psychopathology, respectively.

Finally, we applied a longitudinal design to identify elements related to recovery and predictors of early treatment outcomes among users treated for AUD. Seventy-eight respondents were assessed, using the ASI-6, HSCL-37A, WHOQoL-BREF within two weeks after admission and six months later. Other baseline measurements covered the TCU-MotForm and Treatment Perception Questionnaire (TPQ). TPQ assessments were administered after 30 days of treatment. Early recovery was denoted by reductions in alcohol addiction (heavy use, related expenditures and alcohol-related symptoms) and its predictors at the six-month follow-up were identified using linear regression analyses.

Results

In our introductory literature review, we discovered that high rates of alcohol intoxication and underage drinking are key features of alcohol use in contemporary SSA (Pan, 1975; Swahn, 2013). Increases in alcohol-related problems were attributed to changes in alcohol production and consumption patterns. During the pre-colonial, alcohol was said to be fermented beers and wines (2-4%) and produced in particular seasons for respected men who drunk in their homesteads. It emphasized the ritual rather than intoxication (Adelekan, 2008; Heap, 2005, 2011). Commercialization of alcohol at the onset of colonial times led to new distillation techniques and importation of spirits to satisfy the increased demand for alcohol by the industrial contract laborers and led to the availability of bigger quantities and higher potency alcohol of up to 50% (Adelekan, 2008; Heap, 2005; Pan, 1975). Sharing of alcohol by broader sections of the population eroded the traditional culture of restricted access based on gender, status and age, and season (Willis, 2006). Alcohol-related problems further increased in the post-colonial era, as the newly appointed governments were mainly driven by economic motives and expanded the industrial production instead of controlling alcohol use (Dumbili, 2014). Initial alcohol controls emphasized

pricing and taxation rather than sensitization and prevention (Odejide, 2006). The enactment of comprehensive alcohol policies is sluggish, almost non-existent and has not reached informal alcohol in most SSA countries (WHO, 2010b, 2010c), which has boosted 'self-regulation', a concept strongly promoted by the alcohol industry (Dumbili, 2014) but often criticized for its neglect of public health issues (Jernigan, 2014). As far as AUD treatment is concerned in Uganda, one public and a few private specialized centres (based in communities) are available in the capital city of Kampala to treat substance use disorders (SUDs). These settings offer comparable residential treatment programs, based on the Minnesota model, emphasizing abstinence from all mood-altering substances, but the facilities differ in terms of infrastructural and human resources. While the psychiatric hospital emphasizes a medical approach, psychosocial activities are a dominant feature of addiction management at private rehabilitation centres. This study was performed at the national psychiatric referral hospital (Butabika) and in one private alcohol treatment agency (Hope & Beyond).

From the 60 in-depth interviews among alcohol service users and treatment providers in Uganda and Belgium, alcohol addiction was associated with frequency of consumption, volumes consumed and related negative consequences. We also found that seeking alcohol potency is a major reason why problem users in both countries switch to cheaper spirits, although in Uganda some even manipulate alcohol to make it stronger or rather make their own alcohol when faced with depleted financial resources. From this comparative study, addiction was rather identified as a disease by Belgian respondents, while Ugandan respondents stressed moral failure as a central element and cause of addiction. As in earlier research, e.g., by Tumwesigye (2005) and Sznitman and Romer (2014), the role of social and cultural habits, promotional activities by the alcohol industry, early exposure to alcohol, peer influence and social/economic hardship were acknowledged by Belgian as well as Ugandan respondents as causes of addiction. However, the omnipresence of highly toxic formal and informal alcohol manufacturing and selling points in homesteads, absence of restrictions and religious influences were particular to the Ugandan situation. Affordability and insufficient coping skills stood out as major facilitators for alcohol addiction in Belgium.

Regarding AUD treatment challenges in Uganda, findings showed closely interconnected challenges related to institutional aspects like inadequate human resources, overall insufficiency of services, and a questionable treatment philosophy in available services. Overall, public and private treatment settings differed in terms of challenges, with more human resource limitations experienced in the public hospital and more infrastructural limitations faced in the private setting. Respondents identified the pro-alcohol norms and practices, its wide availability, stigma and cultural interference as important challenges at societal level, while limited awareness about addiction and denial of problems can be situated at the individual level. Low treatment utilization among women and less affluent members of society was another observed challenge.

Results from the first quantitative study involving 100 persons with AUD selected at a public psychiatric hospital and a private treatment agency in Kampala demonstrated relatively low scores on motivation for treatment ('desire for help'). Addiction severity and treatment setting were important correlates of both internal and external motivation. Negative consequences such as higher psychological symptoms, deterioration in environmental and physical QoL and recent heavy drinking boosted respondents' treatment motivation. On the other hand, lower motivation for treatment was linked to higher educational attainment, lack of support from a partner and receiving treatment in the psychiatric hospital.

For the follow-up study, 78 respondents were re-interviewed six months after initiating treatment. We identified some vital features of early recovery in this sample. We observed an overall reduction in addiction severity, as apparent from a reduction in the proportion of daily drinkers, less days of heavy drinking, lower monthly expenditures on alcohol, an increase number of alcohol abstainers and a reduction in the number of persons with social problems with adult relatives. Significant improvements were also noted regarding aspects of psychopathology, i.e., anxiety, depression and externalizing behavior, along with improvements on all domains of QoL, including overall QoL and the psychological, physical, relational and environmental domains.

Regarding predictors of recovery, we found that treatment in the private facility was the only significant correlate in the regression analysis that predicted reduced alcohol expenditures as well as fewer alcohol symptoms at follow-up. Problems with close friends, being younger, having greater treatment satisfaction and receiving treatment in the private facility predicted reduced

alcohol symptoms. Motivation for treatment (treatment needs) was a weak, but the only significant predictor of reductions in frequency of heavy alcohol use. Higher educational attainment, being treated in the psychiatric hospital and living with a partner were significant correlates of higher post-treatment expenditures on alcohol.

Conclusions and recommendations

Results of this comparative study call for information sharing between high and low-income countries, but also emphasize the need for context-specific interventions. Some facilitating factors for AUD, e.g., underage drinking and availability of alcohol, were presented by Ugandan and Belgian respondents and are global concerns that can be addressed by adequate policies and legal interventions. In Uganda, where a young population, social cultures and the alcohol industry largely influence current and future drinking behaviors, a comprehensive alcohol policy free from the influence of 'Big Alcohol' is necessary to delay the onset of alcohol use, to encourage the reduction in frequency of drinking among already established drinkers and to control the production and sale of alcohol. Enhancement of young people's social skills is also an important aspect in delaying alcohol use initiation. At societal level, education and prevention programs are as well needed to increase awareness about addiction, reduce related stigmatization and attract currently marginalized alcohol service users (such as women, lowly educated persons and those in rural areas). Formal AUD treatment is still new and scarce in Uganda and although our study on post-treatment benefits shows encouraging results, several steps are necessary to establish effective and culturally adapted treatment. At the level of service provision, collaboration is necessary between the public and private sector, as well as training of clinical staff in general hospitals and primary health centres for alcohol screening and brief interventions, development/adaptation of local assessment tools and establishment of outpatient and outreach activities to improve quality of service provision and to reach out to persons with alcohol use problems currently not reached by alcohol services. Attention for developing a safe treatment environment, including close therapeutic relationships and a homely atmosphere, are important for increasing treatment engagement and ensuring better treatment outcomes and can provide a foundation for building culturally sensitive and effective AUD treatment programs in Uganda and other low income settings.

Addiction severity, educational attainment and social relationships (along with age and treatment satisfaction) were identified as key treatment outcome predictors, while psychopathology and QoL were important moderators of motivation for treatment. Although not all dynamic features, these findings should be considered when identifying clients' needs for treatment and during treatment planning. The quality of AUD treatment service delivery can further be improved through additional logistic and infrastructural resources and by recruiting more allied health workers in alcohol treatment agencies. The generally low desire for change found among Ugandan alcohol service users urges for the implementation of motivational enhancement approaches, while paying attention to clients' unique needs and circumstances. It is recommended to focus future research in the region on other (informal) treatment modalities and to use alternative instruments and longer follow-up periods in order to probe other AUD treatment approaches and additional predictors likely to influence AUD treatment motivation and outcomes in Uganda.

Nederlandstalige Samenvatting

Naar effectieve, cultureel aangepaste behandelingsprogramma's voor personen die gebruik maken van alcoholhulpverlening in Oeganda

Probleemstelling

Alcoholgebruik in Afrika is niet weg te denken. Vooral in het Sub-Saharaans gebied worden de negatieve gevolgen ervan steeds duidelijker (Adelekan, 2008; WHO, 2014). Uit recente studies is gebleken dat Oeganda wereldwijd op de eerste plaats komt te staan wanneer het gaat om alcoholgerelateerde individuele en maatschappelijke gevolgen (Graham, et al., 2011). Zo wordt de prevalentie van alcoholgerelateerde stoornissen in Oeganda op 9.8% geschat (Kabwama et al., 2016). Vele negatieve gevolgen gaan met dit alcoholmisbruik gepaard: de verspreiding van HIV/AIDS (Oeganda AIDS Commission, 2007), diverse somatische aandoeningen, psychiatrische stoornissen, fysieke ongemakken (Affinnih, 2002), familie-gerelateerde problemen (zoals het uiteenvallen van families), chronische (niet overdraagbare) ziektes, armoede, geweld en criminaliteit (Tumwesigye & Kasirye, 2005). Volgens de WHO (2014) zouden 5% van de sterfgevallen rechtsreeks aan alcoholgebruik te wijten zijn. Ondanks de negatieve impact zijn er nauwelijks strategieën en interventies voorhanden om de vraag naar en het aanbod inzake alcohol te doen slinken. Dit onderzoek wil dan ook de kennis op het vlak van alcohol-gerelateerde stoornissen, inclusief de behandeling ervan, uitbreiden, waarbij Oeganda als een gevalsstudie gebruikt wordt voor Sub-Sahara Afrika.

Methodologie

Dit doctoraatsonderzoek spitste zich toe op de unieke kenmerken van stoornissen in het gebruik van alcohol, alsook op de uitdagingen voor en resultaten van de behandeling van alcoholverslaving in Oeganda. Hiervoor werden vijf deelstudies uitgevoerd. De eerste studie bestond uit een literatuur review, waarbij er gezocht werd naar beschikbare evidentie over alcoholgebruik en alcoholmisbruik in Sub-Sahara Afrika en manieren om hieraan te verhelpen. Vervolgens werden 60 diepte-interviews afgenomen om zicht te krijgen op de unieke kenmerken van stoornissen in het gebruik van alcohol in Oeganda. Hiervoor werden 40 hulp- en dienstverleners en 20 cliënten

in vier verschillende behandelingscentra (twee in Oeganda en twee in België) voor individuen met een alcoholproblematiek bevestigd. Perspectieven op alcoholverslaving en de faciliterende factoren in een welvarend en ontwikkelingsland konden zo vergeleken worden. In de tweede kwalitatieve studie werden uitdagingen inzake de behandeling van stoornissen in het gebruik van alcohol in Oeganda onderzocht. Hiervoor werden 20 hulp- en dienstverleners en 10 mannelijke cliënten bevestigd a.d.h.v. een diepte-interview. De respondenten werden gerekruteerd in een publiek en een privaat behandelcentrum voor alcoholverslaafden in Kampala (Oeganda). Alle kwalitatieve interviews werden vervolgens getranscribeerd en geanalyseerd aan de hand van het softwareprogramma NVivo.

Vervolgens werden kwantitatieve methoden gebruikt om behandelmotivatie en de voorspellende factoren van behandeluitkomsten verder te exploreren. Bij 100 individuen werd er aan het begin van hun behandeling gepolst naar hun behandelmotivatie a.d.h.v. de Texas Christian University Treatment needs and Motivation scale (TCUMotform). Ook andere variabelen die samenhangen met motivatie zoals Kwaliteit van Leven, de ernst van de verslaving en andere psychische stoornissen werden bevestigd aan de hand van de World Health Organisation Quality of Life-scale (WHOQOL-BREF), de Addiction Severity Index-6 (ASI-6) en de Hopkins Symptoms Check List-37 for Adolescents (HSCL-37A). Daarnaast werd er een longitudinale studie opgezet om factoren die samenhangen met (vroeg) herstel en voorspellers van behandeluitkomsten beter te kunnen begrijpen. Op twee verschillende tijdstippen, nl. binnen de twee weken na het starten van de behandeling en zes maanden later, werden 78 cliënten bevestigd met de ASI-6, HSCL-37A en de WHOQOL-BREF. Andere baseline metingen omvatten de TCUMotForm en de Treatment Perception Questionnaire (TPQ). Na 30 dagen behandeling nam men ook de Treatment Perception Questionnaire (TPQ) af. Onder 'vroeg herstel' verstaat men in dit onderzoek een daling in de ernst van de alcoholverslaving op vlak van hevig drinken, alcoholgerelateerde uitgaven en ziektesymptomen. Aan de hand van lineaire regressie-analyses trachtte men tijdens deze follow-up-studie een zicht te krijgen op de voorspellers van vroeg herstel.

Resultaten

Uit de inleidende literatuurstudie kwam naar voor dat hoge percentages inzake alcoholintoxicatie en alcoholgebruik door minderjarigen belangrijke kenmerken zijn van het hedendaagse alcoholgebruik in Sub-Sahara Afrika (Pan, 1975; Swahn, 2013). De toename aan alcoholgerelateerde problemen wordt toegeschreven aan veranderingen in de productie- en consumptiepatronen van alcohol. Wanneer we teruggaan naar de pre-koloniale tijd, dan zien we dat alcohol voornamelijk genuttigd werd onder de vorm van gefermenteerde bieren en wijnen (2-4%) en dat deze enkel in bepaalde seizoenen geproduceerd werden voor mannen met een zeker aanzien. Zij nuttigden deze dan op het dorpsplein. De nadruk lag eerder op het rituele karakter dan op het dronken worden op zich (Adelekan, 2008; Heap, 2005, 2011). Echter, de commercialisatie van alcohol aan het begin van de koloniale tijd leidde tot nieuwe distillatietechnieken en de invoer van sterke dranken, om zo te kunnen voldoen aan de toegenomen vraag naar alcohol van de industriële contractarbeiders. Dit leidde op zijn beurt tot de beschikbaarheid van grotere hoeveelheden alcohol, alsook tot een stijging in het alcoholgehalte tot wel 50% (Adelekan, 2008; Heap, 2005; Pan, 1975).

De traditionele cultuur waarbij slechts enkele bevolkingsgroepen toegang hadden tot alcohol, gebaseerd op geslacht, status, leeftijd en het seizoen, verdween stilaan aangezien ook andere bevolkingsgroepen alcohol begonnen te gebruiken (Willis, 2006). Zo namen alcohol-gerelateerde problemen verder toe in het postkoloniale tijdperk, mede omdat de nieuw aangestelde regeringen zich voornamelijk lieten drijven door economische motieven. Ze breidden de industriële productie van alcohol verder uit in plaats van het alcoholgebruik onder controle proberen te houden (Dumbili, 2014). Het alcoholbeleid was in de eerste plaats gericht op prijsheffingen en taxen, eerder dan op het sensibiliseren van mensen en de daarbij aansluitende preventie (Odejide, 2006). Het invoeren van een alomvattend alcoholbeleid verloopt gestaag, is nagenoeg onbestaande, en adresseert het de informele alcoholproductie- en gebruik niet in de meeste SSA-landen (WHO, 2010b, 2010c), waardoor 'zelfregulering' een opmars maakte. Ondanks vele kritieken (omdat zo de hiermee gepaard gaande volksgezondheidsproblemen buiten beschouwing blijven) wordt dit concept sterk gepromoot door de alcoholindustrie (Dumbili, 2014; Jernigan, 2014).

Wat betreft de behandeling van stoornissen in het gebruik van alcohol in Oeganda zijn er slechts één publiek en enkele gespecialiseerde privécentra beschikbaar, allen gesitueerd in de hoofdstad Kampala, om middelengerelateerde problemen aan te pakken. Deze centra bieden vergelijkbare residentiële behandelingsprogramma's, allen gebaseerd op het Minnesota-model, waarbij de nadruk ligt op onthouding van alle psychoactieve middelen. De voorzieningen verschillen wel qua infrastructuur en personeel: waar het psychiatrische ziekenhuis eerder een medische aanpak vooropstelt, focussen de privécentra eerder op de psychosociale behandeling van verslaving. Dit onderzoek werd uitgevoerd in het openbaar psychiatrisch ziekenhuis (Butabika) en in één privécentrum voor de behandeling van alcoholproblemen (Hope & Beyond).

Uit de 60 diepte-interviews met cliënten en hulp- en dienstverleners van alcoholbehandelcentra in België en Oeganda bleek dat alcoholverslaving in de eerste plaats bepaald wordt door de frequentie van consumptie, de hoeveelheid die gedronken wordt en daarmee samenhangende negatieve gevolgen. Verder bleek uit de interviews ook dat het zoeken naar 'sterke' middelen een belangrijke reden is waarom probleemgebruikers in beide landen overschakelen naar het gebruik van gedistilleerde dranken, hoewel in Oeganda sommigen zelf alcohol manipuleren om het sterker te maken of zelf alcohol brouwen bij schaarste aan financiële middelen.

De vergelijkende studie toonde aan dat verslaving door Belgische respondenten eerder gezien wordt als een ziekte, terwijl Oegandese respondenten dit eerder zien als 'moreel verval' en gebrek aan wilskracht. Net als in eerder onderzoek, bijvoorbeeld door Tumwesigye (2005) en Sznitman en Romer (2014), werd ook gevonden dat sociale en culturele gewoonten, het promoten van alcohol door de alcoholindustrie, vroege blootstelling aan alcohol, invloed van peers en sociaal-economische problemen als belangrijke oorzaken van verslaving gezien worden. Zowel Belgische als Oegandese respondenten haalden dit aan. De alomtegenwoordigheid van de zeer gevaarlijke informele alcoholproductie en -handel, de afwezigheid van een duidelijk beleidskader of wetgeving en religieuze invloeden zijn typische kenmerken voor de situatie in Oeganda. Een grote beschikbaarheid aan alcohol en ontoereikende copingvaardigheden bleken dan weer de belangrijkste faciliterende factoren voor alcoholverslaving in België.

Wat de voornaamste uitdagingen betreft voor de behandeling van stoornissen in het gebruik van alcohol in Oeganda, wijzen de bevindingen op enkele nauw met elkaar verbonden uitdagingen die

vooral verband houden met institutionele aspecten, zoals gebrek aan personeel, logistieke en infrastructurele problemen en een behandelfilosofie die vragen doet oproepen. Over het algemeen is het grote verschil tussen de publieke en private behandelingsinstelling het volgende: het personeelstekort in het openbaar psychiatrisch ziekenhuis is schrijnend, terwijl men in de privé-instelling vooral kampt met infrastructurele beperkingen. Respondenten identificeerden de pro-alcoholnormen en -praktijken, de ruime beschikbaarheid van alcohol, stigmatisering en culturele invloeden als belangrijke uitdagingen op maatschappelijk niveau, terwijl beperkt probleembewustzijn en ontkenning van de problematiek als belangrijkste uitdagingen op individueel niveau gezien werden. Daarnaast werd ook het feit dat vrouwen en minder begoede mensen weinig in behandelingsettings terecht komen als een uitdaging gezien.

Resultaten van de eerste kwantitatieve studie bij 100 alcoholafhankelijke personen, gerekruteerd in het openbaar psychiatrisch ziekenhuis en een privé-behandelingscentrum in Kampala, wezen op relatief lage scores op vlak van motivatie voor behandeling. Zowel de ernst van de verslaving als de behandelsetting waren belangrijke factoren die samenhangen met zowel interne als externe motivatie. Negatieve gevolgen, zoals het ervaren van meer psychologische symptomen, een daling van de levenskwaliteit op fysiek en omgevingsvlak en recent zwaar alcoholgebruik versterkten de respondenten hun behandelmotivatie. Een lagere behandelmotivatie hing dan weer samen met een hoger opleidingsniveau, gebrek aan ondersteuning door een partner en in behandeling zijn in het psychiatrisch ziekenhuis.

Voor de follow-up studie werden 78 respondenten zes maanden na het starten van de alcoholbehandeling opnieuw geïnterviewd. Bij deze respondenten kon men enkele essentiële kenmerken van vroeg herstel identificeren. Zo zagen de onderzoekers een algehele vermindering van de ernst van de verslaving, zoals bleek uit een daling van het aantal personen die dagelijks drinken, minder dagen van zwaar alcoholgebruik, beduidend lagere maandelijkse uitgaven aan alcohol, een toename in het aantal mensen die zich onthouden van alcoholgebruik en een daling in het aantal personen die problemen ervaren met (volwassen) familieleden. Significante verbeteringen werden ook opgemerkt met betrekking tot psychopathologie, meer bepaald op vlak van angst, depressie en externaliserend gedrag, evenals verbeteringen op alle domeinen van

Kwaliteit van Leven ('Quality Of Life'): zowel de algehele Kwaliteit van Leven, alsook de Kwaliteit van Leven op psychologisch, fysiek, relationeel en omgevingsvlak.

Met betrekking tot voorspellers van initieel herstel werd gevonden dat behandeling in de privésetting de enige significante factor was in de regressieanalyse die verminderde alcoholuitgaven voorspelde, evenals minder alcoholsymptomen op het moment van de follow-up. Een daling in alcoholsymptomen werd voorspeld door problemen met dichte vrienden, jongere leeftijd, grotere behandeltevredenheid en behandeld zijn in het privé-behandelcentrum. Motivatie voor behandeling (de behoefte aan behandeling) was een zwakke, zij het wel de enige significante voorspeller voor een daling in frequentie van zwaar alcoholgebruik. Een hoger opleidingsniveau, behandeld zijn in het psychiatrisch ziekenhuis en samenleven met een partner hingen significant samen met hogere uitgaven aan alcohol na de behandeling.

Conclusie en aanbevelingen

De resultaten van deze vergelijkende studie pleiten voor meer kennisoverdracht en ervaringsdelen tussen landen met hoge en lage inkomens, zonder dat daarbij de noodzaak aan context-specifieke interventies uit het oog verloren mag worden. Sommige faciliterende factoren voor stoornissen in het gebruik van alcohol, bijvoorbeeld alcoholgebruik door minderjarigen en de ruime beschikbaarheid van alcohol, werden zowel door Oegandese als Belgische respondenten aangehaald en vormen mondiale problemen die aangepakt kunnen worden door een adequaat beleid en regelgeving.

In Oeganda, waar een jonge populatie, culturele gebruiken en de alcoholindustrie het huidig en toekomstig drinkgedrag grotendeels beïnvloeden, is nood aan een integraal alcoholbeleid dat losstaat van de invloed van de almachtige alcoholindustrie. Dit om verschillende redenen: om de start van het alcoholgebruik uit te stellen tot een latere leeftijd, om een daling in frequentie van gebruik bij drinkers die reeds lange tijd gebruiken aan te moedigen en om de productie en verkoop van alcohol te beheersen. Het verbeteren van de sociale vaardigheden van jongeren is ook een niet te verwaarlozen aspect wil men het eerste gebruik van alcohol uitstellen. Op maatschappelijk niveau zijn sensibiliserings- en preventieprogramma's nodig om het bewustzijn over verslaving te vergroten, om de daaraan gerelateerde stigmatisering te verminderen en om meer mensen die

nu de weg naar behandeling niet vinden (zoals vrouwen, laaggeschoolden en mensen die op het platteland wonen in landelijke gebieden) met behandeling in contact te brengen.

Behandeling voor alcoholgerelateerde stoornissen is nog erg nieuw en zeer schaars in Oeganda en hoewel deze studie naar de voordelen van behandeling hoopvolle resultaten laat zien, zijn er verschillende stappen nodig om tot meer effectieve en cultureel aangepaste programma's te komen. Op het niveau van dienstverlening is samenwerking tussen de publieke en private sector nodig, evenals de opleiding van het personeel in algemene ziekenhuizen en eerstelijnsgezondheidscentra op het vlak van alcoholscreening en kortdurende interventies. Daarnaast is er nood aan de ontwikkeling of aanpassing van assessment-instrumenten en het opzetten van ambulante en outreach-activiteiten om de kwaliteit van de dienstverlening te verbeteren en om contact te leggen met personen met alcoholproblemen die momenteel niet worden bereikt door behandelingsdiensten. Aandacht voor het ontwikkelen van een veilige behandelomgeving, waarbij het belang van een nauwe therapeutische relatie en een huiselijke sfeer niet mogen ontbreken, is belangrijk voor het vergroten van de behandelbetrokkenheid en om te zorgen voor betere behandelresultaten. Dit kan eveneens een basis vormen voor het uitbouwen van cultuursensitieve en effectieve behandelprogramma's voor personen met een alcoholprobleem in Oeganda en andere ontwikkelingslanden. Ernst van verslaving, opleidingsniveau en sociale relaties (samen met leeftijd en tevredenheid over de behandeling) kwamen uit deze studie naar voor als belangrijke voorspellers voor behandeluitkomsten, terwijl psychopathologie en Kwaliteit van Leven in belangrijke mate de van motivatie voor behandeling bepalen. Hoewel dit niet allemaal dynamische factoren zijn, kan met deze bevindingen rekening gehouden worden bij het in kaart brengen van de behandelbehoeften van cliënten en het opstellen van het behandelplan. De kwaliteit van alcoholbehandelingscentra kan verder verbeterd worden door in te zetten op extra logistieke en infrastructurele middelen en door meer specifiek opgeleide alcoholhulpverleners aan te werven. De over het algemeen lage motivatie tot verandering bij Oegandese alcoholverslaafden die zich aanmelden voor behandeling vraagt om meer in te zetten op en strategieën te implementeren die erop gericht zijn de motivatie van cliënten te verhogen, waarbij er ook aandacht moet zijn voor de unieke behoeften en omstandigheden van individuele zorggebruikers. Het is dan ook aanbevolen om verder onderzoek

te doen in de regio en zich hierbij toe te spitsen op andere (informele) behandelvormen en om daarbij andere instrumenten te gebruiken alsook een langere follow-up-periode te voorzien. Zo kan men ook andere behandelvormen voor alcoholgerelateerde stoornissen onderzoeken en aanvullende factoren ontdekken die de behandelmotivatie en -uitkomsten beïnvloeden in Oeganda.

Appendixes

APPENDIX 1. DATA STORAGE MANAGEMENT

Data Storage Fact Sheet

Name/Data storage fact sheets/articles: - Perspectives of alcohol service providers and users in Uganda;
- Treatment challenges for alcohol service users in Kampala, Uganda

Author: David Kalema

Date: 01/06/2017

1. Contact details

=====

1a. Main researcher

- name: David Kalema
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1b. Responsible Staff Member (ZAP)

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If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

=====

* Reference of the publication in which the datasets are reported:

Kalema, D., Vanderplasschen, W., Vindevogel, S., Derluyn, I., & Baguma, P. (2017). Treatment challenges for alcohol service users in Kampala, Uganda. *International Journal of Alcohol and Drug Research*, 6(1), 27-35. doi: <http://dx.doi.org/10.7895/ijadr.v6i1.240>

Kalema, D., Vindevogel, S., Derluyn, I., Baguma, P., Bannink, F., & Vanderplasschen, W. (2017). Perspectives on alcohol addiction among alcohol treatment providers and service users in Uganda and Belgium. *Drugs: Education, Prevention and Policy*. doi: 10.1080/09687637.2017.1381667

* Which datasets in that publication does this sheet apply to?

Both publications are based on the dataset mentioned above. Publication one only makes use of the data collected in Uganda, while publication 2 is based on the data collected in Belgium and Uganda.

3. Information about the files that have been stored

=====

3a. Raw data

* Have the raw data been stored by the main researcher? [☒] YES / [☐] NO

If NO, please justify:

* On which platform are the raw data stored?

- [☐] researcher PC
- [☐] research group file server
- [☒] other (specify): paper questionnaires stored in a locked cuboard at the researcher's room at the department.

* Who has direct access to the raw data (i.e., without intervention of another person)?

- [☒] main researcher
- [☒] responsible ZAP
- [☐] all members of the research group
- [☐] all members of Ugent
- [☐] other (specify): ...

3b. Other files

* Which other files have been stored?

- [☒] file(s) describing the transition from raw data to reported results.
- [☒] file(s) containing processed data.

- ☒ file(s) containing analyses.
- ☒ files(s) containing information about informed consent
- ☒ a file specifying legal and ethical provisions
- ☐ file(s) that describe the content of the stored files and how this content should be interpreted.
- ☐ other files. Specify: ...

* On which platform are these other files stored?

- ☒ individual PC
- ☐ research group file server
- ☒ other: stored in a locked cabinet at the researcher's room at the department

* Who has direct access to these other files (i.e., without intervention of another person)?

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- ☒ responsible ZAP
- ☒ all members of the research group
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- address:
- affiliation:
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Data Storage Fact Sheet

Name/Data storage fact sheets/articles: Addiction severity, motivation for treatment, psychopathology and Quality of Life for AUD treatment users in Uganda

Author: David Kalema

Date: 01/06/2017

1. Contact details

=====

1a. Main researcher

- name: David Kalema
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- address: Ghent University, Department of Special Needs Education
- e-mail: Wouter.Vanderplasschen@Ugent.be

If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

=====

- * Reference of the publication in which the datasets are reported: None
- * Which datasets in that publication does this sheet apply to? Not applicable

3. Information about the files that have been stored

=====

3a. Raw data

- * Have the raw data been stored by the main researcher? [☒] YES / [☐] NO

If NO, please justify:

* On which platform are the raw data stored?

- ☐ researcher PC
- ☐ research group file server
- ☒ other (specify): paper questionnaires stored in a locked cuboard at the researcher's room at the department.

* Who has direct access to the raw data (i.e., without intervention of another person)?

- ☒ main researcher
- ☒ responsible ZAP
- ☐ all members of the research group
- ☐ all members of Ugent
- ☐ other (specify): ...

3b. Other files

* Which other files have been stored?

- ☒ file(s) describing the transition from raw data to reported results.
- ☒ file(s) containing processed data.
- ☒ file(s) containing analyses.
- ☒ files(s) containing information about informed consent
- ☒ a file specifying legal and ethical provisions
- ☐ file(s) that describe the content of the stored files and how this content should be interpreted.
- ☐ other files. Specify: ...

* On which platform are these other files stored?

- ☒ individual PC
- ☐ research group file server
- ☒ other: stored in a locked cabinet at the researcher's room at the department

* Who has direct access to these other files (i.e., without intervention of another person)?

- ☒ main researcher
- ☒ responsible ZAP
- ☒ all members of the research group
- ☐ all members of Ugent
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* If yes, by whom (add if multiple):

- name:
- address:
- affiliation:
- e-mail:

APPENDIX 2. LIST OF PUBLICATIONS

Article 1

Kalema, D., & Vanderplasschen, W. (2015). Features and challenges of alcohol abuse treatment in Uganda. *African Journal of Drug & Alcohol Studies*, 14(2), 125-135.

Article 2

Kalema, D., Vindevogel, S., Baguma, P., Derluyn, I., & Vanderplasschen, W. (2015). Alcohol misuse, policy and treatment responses in Sub-Saharan Africa: the case of Uganda. *Drugs: Education, Prevention and Policy*, 22(6), 476-482.

Article 3

Kalema, D., Vanderplasschen, W., Vindevogel, S., & Derluyn, I. (2016). The role of religion in alcohol consumption and demand reduction in Muslim majority countries (MMC). *Addiction*, 111(10), 1716-1718. doi: 10.1111/add.13333

Article 4

Kalema, D., Vanderplasschen, W., Vindevogel, S., Derluyn, I., & Baguma, P. (2017). Treatment challenges for alcohol service users in Kampala, Uganda. *International Journal of Alcohol and Drug Research*, 6(1), 27-35. doi: <http://dx.doi.org/10.7895/ijadr.v6i1.240>

Article 5

Kalema, D., Vindevogel, S., Derluyn, I., Baguma, P., Bannink, F., & Vanderplasschen, W. (2017). Perspectives on alcohol addiction among alcohol treatment providers and service users in Uganda and Belgium. *Drugs: Education, Prevention and Policy*. doi: 10.1080/09687637.2017.1381667

